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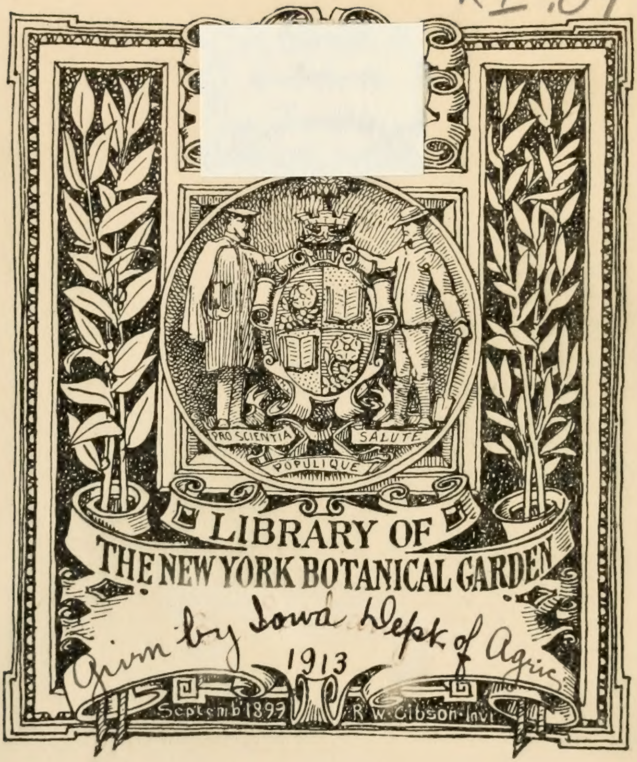
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TWELFTH ANNUAL

Iowa Year Book of Agriculture

Issued by the

Iowa Department of Agriculture

1911

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LETTER OF TRANSMITTAL

OFFICE OF IOWA STATE DEPARTMENT OF AGRICULTURE.

Des Moines, Iowa, July 1, 1912.

To His Excellency, B. F. Carroll, Governor of Iowa:

SIR:—I have the honor to transmit herewith the Twelfth Annual IOWA YEAR BOOK OF AGRICULTURE, for the year 1911.

ARTHUR R. COREY,
Secretary State Board of Agriculture.

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INTRODUCTORY

The 1911 Iowa Year Book of Agriculture, presented herewith, is made up of thirteen parts, or divisions.

Part I is a reprint of the annual, or final, report of the Iowa Weather and Crop Service for the year 1911. It contains the summary and monthly review of the climatology for the year; a review of crop conditions by months; dates of last killing frost in spring, and first in autumn; climate and crop review during crop season; summary of weekly climate and crop bulletins issued; summary of crop reports June 1, July 1, August 1, August 25, and December 1; a tabulated crop summary showing production and value of soil products and a table giving distribution of principal farm crops by counties.

Part II presents statistical tables of Iowa's principal farm crops for the years 1880, 1885, 1890 and 1896 to 1911, inclusive, showing average yield per acre, total yield, average farm value, December 1, total acreage, and total value; acreage production and value of the principal farm crops of the United States in 1909, 1910 and 1911, by states, revised to 1909 census basis; estimated number, average price and total value of farm animals in the United States January, 1, 1912, with comparisons; statistics of the principal farm crops of the world for the years 1907 to 1911 inclusive.

Part III is a tabulation of the crop statistics collected by the township assessors and reported to this department by the county auditors. The data is presented in five tables as follows:

Table No. 1.—Total number, average size and total acreage of farms, total acreage occupied by farm buildings, public highways and feed lots, acreage in pasture, garden, orchard, acreage in crops not otherwise enumerated and acreage of land not utilized for any purpose. Total number bushels apples harvested, number silos on farms and average monthly wage paid farm help during summer and winter months, by counties, for the year 1911.

Table No. 2.—Acreage, yield per acre and total yield of corn, oats, winter wheat, spring wheat and barley, by counties, for the year 1911.

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Table No. 3.—Acreage, yield per acre and total yield of corn, oats, winter wheat, spring wheat and barley, by counties, for the year 1911.

Table No. 3.—Acreage, yield per acre and total yield of rye, tame hay, wild hay, alfalfa, potatoes and flax seed, by counties, for the year 1911.

Table No. 4.—Number of horses all ages, mules all ages, and number of swine on farms July 1, 1911. Number of cows kept for milk, number other cattle not kept for milk and total number of cattle all ages. Number sheep kept on farms, number shipped in for feeding and number sold for slaughter. Number pounds of wool clipped, total number all varieties poultry on farms July 1, 1911, and total number dozen eggs received, by counties, for the year 1911.

Table No. 5.—Acreage in sweet corn, pop corn, acreage and total yield of timothy and clover seed, by counties, for the year 1911.

Part IV. Proceedings of the joint session of the annual State Farmers' Institute and Corn Belt Meat Producers' Association, December 12, 1911.

Part V. Synopsis of the proceedings of State Board of Agriculture and Executive and special committee meetings.

Part VI. Proceedings of the State Agricultural Convention, including President's address and reports of the secretary and treasurer, financial statement of county farmers' institutes; financial statement and statistics of county and district fairs and complete report of the Iowa State Fair and Exposition for 1911 with detailed statement of receipts and disbursements of the Department of Agriculture for the fiscal year ending November 30, 1911.

Part VII. Proceedings of the annual meeting of the Swine Breeders' Association, held at Des Moines, June 20, 1911.

Part VIII. Proceedings of the Iowa State Dairy Association, held at Waterloo, October 10-14, 1911.

Part IX. Extracts from the State Food and Dairy Commissioner's report for 1911.

Part X. Contains miscellaneous papers dealing with live stock, agricultural, and kindred subjects from United States and Iowa Experiment Station Bulletins, agricultural press, and papers read before county farmers' institutes.

Part XI. Press reports of the Iowa State Fair and Exposition for 1911; official report of awards in the live stock departments and the standing and scores made in the boys' live stock judging contest, and the girls' cooking contest.

Part XII. Condensed report of agricultural conditions in each county, by county and district agricultural societies and special reporters, for the year 1911.

Part. XIII. Directory of associations and organizations representing agricultural interests in Iowa.

Note.—A complete report of the Stallion Registration Division, including a directory giving name and address of owner, name and breed of stallion, and number of state certificate issued, and other information relating to the division, will be published as a supplement to the Year Book, immediately after January 1, 1912, the close of the fiscal year for that division.

STATE BOARD OF AGRICULTURE
1912

EX-OFFICIO MEMBERS.

Governor of State	Des Moines
President of Iowa State College	Ames
State Dairy Commissioner	Des Moines
State Veterinarian	Des Moines

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O. A. Olson, *Vice President*	Forest City
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Seventh District—C. F. Curtiss	Ames
Eighth District—Frank E. Sheldon	Mt. Ayr
Ninth District—John F. Summers	Malvern
Tenth District—John P. Mullen	Fonda
Eleventh District—H. L. Pike	Whiting

The President, Vice President, Secretary and Treasurer are elected for one year.

Terms of Directors from even-numbered Districts expire second Wednesday in December, 1912. Terms of the Directors for odd-numbered Districts expire second Wednesday in December, 1913.

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YEAR 1912.

EXECUTIVE.

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O. A. OLSON

AUDITING.

C. W. PHILLIPS..T. C. LEGOE
R. S. JOHNSTON

RESOLUTIONS.

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F. E. SHELDON.

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O. A. OLSON
E. M. REEVES C. F. CURTISS

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IOWA'S SOURCE OF WEALTH.

FOR THE YEAR ENDING DECEMBER 31, 1911.

COMPILED FOR THE IOWA YEAR BOOK OF AGRICULTURE, FROM STATISTICS GATHERED UNDER THE IOWA STATISTICAL LAW.

ACREAGE PRODUCTION, AVERAGE YIELD AND VALUE PER ACRE AND TOTAL VALUE OF IOWA FARM PRODUCTS FOR THE YEAR 1911.

	Acreage	Production	Average per acre	Average farm price Dec. 1, 1911	Value per acre	Total value
Corn	8,863,331	326,661,430 bu.	36.9	$ .54	$19.93	$ 176,397,172
Oats	4,730,687	122,474,893 bu.	25.8	.41	10.58	50,214,706
Winter wheat	360,358	6,451,921 bu.	17.9	.93	16.65	6,000,287
Spring wheat	537,445	6,238,242 bu.	11.6	.86	9.98	5,364,888
Barley	313,472	6,106,239 bu.	19.5	.90	17.55	5,495,615
Rye	44,157	668,443 bu.	15.1	.79	11.93	528,070
Potatoes	117,943	9,125,747 bu.	77.0	.71	54.67	6,479,290
Flax	39,334	178,717 bu.	4.6	2.00	9.20	357,434
Hay (Tame)	3,119,399	2,544,088 T.	.8	13.44	10.75	34,192,543
Hay (Wild)	820,955	662,866 T.	.8	10.28	8.22	6,814,262
Alfalfa	30,323	70,640 T.	2.3	14.00	32.20	988,960
Miscellaneous crops	80,579	Estimated				8,000,000
Timothy seed	233,318	Estimated				500,000
Clover seed	33,121	Estimated				300,000
Pop corn	12,742	Estimated				250,000
Sweet corn	33,566	Estimated				950,000
Garden truck	47,874	Estimated				1,000,000
Orchards	153,999	Estimated				9,000,000
Pasturage	9,200,220	Estimated				80,000,000
Total value of farm crops						$ 392,833,227
Wool		Estimated				1,500,000
Dairy products		Estimated				52,000,000
Poultry and eggs		Estimated				30,000,000
Total value farm products						$ 476,333,227

NUMBER, AVERAGE VALUE AND TOTAL VALUE OF LIVE STOCK JANUARY FIRST, 1912.

(Figures taken from United States Year Book of Agriculture, 1911.)

	Number, all ages	Average value	Total value
Horses	1,568,000	$ 113.00	$ 177,184,000
Mules	57,000	119.00	6,783,000
Milch cows	1,393,000	40.80	56,834,000
Other cattle	2,773,000	25.00	69,325,000
Swine	9,689,000	9.80	94,952,000
Sheep	1,201,000	4.30	5,164,000
Total			$ 410,242,000

SUMMARY OF STATISTICS OF IOWA FARMS AND FARM PROPERTY FROM THE THIRTEENTH CENSUS OF THE UNITED STATES, 1910.

Land area of Iowa		35,575,040
Land in farms		33,930,688
Improved land in farms		29,491,199
Number of all farms		217,044
Average acres per farm		156.3
Average value of land per acre	$	82.58
Average value of land and buildings per acre	$	96.00
Total value of farms and farm property	$	3,745,860,544
Total value of land	$	2,801,973,729
Total value of buildings	$	455,405,671
Total value of implements and machinery	$	95,477,948
Total value of live stock, poultry and bees	$	393,003,196
Average value of all property per farm	$	17,259
Average value of land and buildings per farm	$	15,008
Average value of buildings per farm	$	2,098
Average value of implements and machinery per farm	$	440
Average value of live stock per farm	$	1,811
Total population		2,224,771
Rural population		1,544,717
Farms operated by owners and managers		134,929
Farms operated by tenants		82,115

GRAND TOTALS.

Value of land and buildings	$	3,257,379,400
Value of farm machinery and implements		95,477,948
Value of live stock		410,242,000
Value of farm crops and other products		476,333,227
Grand total valuation	$	4,239,432,575

PART I.

Report of the Iowa Weather and Crop Service for 1911

George M. Chappel, Director

Climatic data and statistics of soil products of the State, for the year 1911, have been compiled in condensed form in this report for future reference and comparison.

Reports have been received regularly each month from 118 co-operative meteorological stations, and from the U. S. Weather Bureau stations at Des Moines, Davenport, Dubuque, Charles City, Keokuk and Sioux City, Iowa and Omaha, Nebr. The equipment at all stations has been kept up to a high standard.

This office distributed 28,000 copies of the Monthly Review of the Iowa Weather and Crop Service, and 45,000 copies of the weekly weather crop bulletins. Through the generous co-operation of many of the telephone companies in the State, daily weather forecasts were distributed to over 150,000 telephone subscribers each day. Daily forecasts were also distributed by rural mail to 2,268 addresses, and by ordinary mail to 2,016 addresses. Daily forecast messages were sent to 135 towns by telegraph at expense of the U. S. Weather Bureau. Special warnings of the approach of cold waves and heavy snows were also distributed whenever issued.

CLIMATOLOGY OF THE YEAR, 1911.

While there were many and decided departures during the year from the normal climatic conditions, the average temperature and total precipitation approximate the normals very closely. The most striking characteristics during the year were the excess of temperature in February, March, June and the first five days of July; the deficiency of rainfall in May, June, July, and August, and the unusually heavy precipitation during December. The maximum temperatures during the first five days of July were the highest, with one exception, 1901, ever recorded in the State, and the drought was very severe and damaging, especially in the southwestern quarter of the State. But, notwithstanding the adverse conditions during the summer months, the crop output was very satisfactory. The average yields were, with the exception of hay and potatoes, nearly up to the normal, and the prices obtained were higher than those of former years, making the total value far in excess of any crop ever produced in the State.

BAROMETER (reduced to sea level). The average pressure of the atmosphere for the year 1911 was 30.04 inches. The highest observed pressure was 30.96 inches, at Sioux City, Woodbury County, on November 2d. The lowest pressure observed was 29.23 inches, at the same station, on May 18th. The range for the State was 1.73 inches.

TEMPERATURE. The mean temperature for the State was 49.5°, or 2.0° more than the normal. The highest annual mean was 54.3°, at Keokuk, Lee County. The lowest annual mean was 44.4°, at Sibley, Osceola County. The highest temperature reported was 111° at Bloomfield, Davis County, on July 3d and 5th, and at Jefferson, Greene County, and Keosauqua, Van Buren County, on July 5th. The lowest temperature reported was —35°, at Inwood, Lyon County, and at Washta, Cherokee County, on January 3d. The range for the State was 146°.

PRECIPITATION. The average precipitation for the State was 31.37 inches, or 1.28 inches less than the normal. The average for 1910 was 20.03 inches. The greatest amount recorded at any station was 46.77 inches, at Burlington, Des Moines County, and the least amount was 19.74 inches, at Pacific Junction, Mills County. The greatest monthly precipitation was 13.73 inches, at Bloomfield, Davis County, and at Wapello, Louisa County, in September. The least monthly precipitation was a trace, at Alton, Sioux County, and at Estherville, Emmet County, in March. The greatest amount in any consecutive 24 hours was 7.00 inches, at Bloomfield, Davis County, on September 28th.

The average amount of snowfall was 35.3 inches. The greatest amount recorded at any station was 58.6 inches, at Charles City, Floyd County, and the least amount was 12.5, at Keokuk, Lee County. The greatest monthly snowfall was 27.0 inches at Northwood, in December. The greatest twenty-four hour snowfall was 12.0 inches, at Elma, Howard County, on December 31st; at Northwood, Worth County, on December 26th, and at Waverly, Bremer County, on December 30th. Measurable precipitation occurred on an average of 87 days. This is 20 more than for the year 1910.

WIND. The prevailing direction of the wind was northwest. The highest velocity reported was 73 miles an hour, at Sioux City, Woodbury County, on April 12th.

SUNSHINE AND CLOUDINESS. The average number of clear days was 165; partly cloudy, 99; cloudy, 101; as against 188 clear days; 92 partly cloudy; and 85 cloudy days in 1910. More than the usual amount of sunshine was experienced.

MONTHLY SUMMARIES

JANUARY.

As a whole January, 1911, was a very pleasant month. There were comparatively few cold days and no severe storms and the average precipitation was below the normal except over the northern counties where there was a slight excess.

With the exception of the 2d and 3d, the temperature was comparatively moderate in the southern counties but temperatures below zero were recorded in the northern counties on the first six days; on the 9th, from the 11th to the 16th, and on the 21st and 22d. The 3d was the coldest day when the minima ranged from —8° in Louisa County, to —35° in Lyon and Cherokee Counties. The 10th, 29th and 31st were the warmest days when the maximum temperatures were generally above 50°, and at several stations they were above 60°, the highest being 66°, at Thurman, on the 29th.

Practically all of the precipitation was in the form of snow, except over the southeastern counties where heavy rain fell on the 13th and 14th which froze on trees, wires and walks as it fell, covering them with a heavy coat of ice, crippling all electric service and doing a vast amount of damage to trees. The heaviest snowfall was on the 16th and 17th but as the wind was light on those and following days it did not interfere with railroad or street car traffic. The absence of snow during the larger part of the month, especially in the southern counties, allowed stock to range on pasture throughout the month. The highways were in fine condition. The ground is still dry and the water supply continues to diminish over the larger part of the state. A good supply of ice, ranging from 10 to 20 inches, was harvested and a large quantity was shipped from Keokuk to St. Louis and other points. While the conditions were favorable for outdoor work and for transportation companies, the absence of snow was not advantageous to fall sown grain.

TEMPERATURE.—The monthly mean temperature for the State, as shown by the records of 114 stations, was 20.2°, which is 0.9° above the normal for Iowa. By sections the mean temperatures were as follows: Northern section, 15.1°, which is 1.1° below the normal; Central section, 20.7°, which is 1.5° above the normal; Southern section, 24.7°, which is 2.3° above the normal. The highest monthly mean was 29.6°, at Keokuk, Lee County, and the lowest monthly mean, 11.4°, at Estherville, Emmet County. The highest temperature reported was 66°, at Thurman, Fremont County, on the 29th; the lowest temperature reported was—35°, at Inwood, Lyon County and at Washta, Cherokee County, on the 3d. The average monthly maximum was 53°, and the average monthly minimum was —21°. The greatest daily range was 56°, at Storm Lake, Buena Vista County. The average of the greatest daily ranges was 44°.

PRECIPITATION.—The average precipitation for the State, as shown by the records of 118 stations, was 0.97 inch, which is 0.08 inch below the normal. By sections the averages were as follows: Northern section, 0.95 inch, which is 0.13 inch above the normal; Central section, 0.84 inch, which is 0.26 inch below the normal; Southern section, 1.12 inches, which is 0.12 inch below the normal. The greatest amount, 3.73 inches, occurred at Burlington, Des Moines County, and the least, 0.11 inch, at Greenfield, Adair County. The greatest amount in twenty-four hours 1.93 inches, occurred at Keokuk, Lee County, on the 13th and 14th. Measurable precipitation occurred on an average of 5 days.

SNOW.—The average depth of unmelted snowfall for the State was 7.3 inches; by sections the averages were as follows: Northern section, 9.5 inches; Central section, 6.8 inches; Southern section, 5.5 inches. The greatest depth was 22.0 inches at Rockwell City, Calhoun County; and the least depth, 1.5 inches at Greenfield, Adair County.

SUNSHINE AND CLOUDINESS.—The average number of clear days was 9; partly cloudy, 8; cloudy, 14. The duration of sunshine was much below the normal, the percentage of the possible amount being 41 at Charles City; 28 at Davenport; 34 at Des Moines; 32 at Dubuque; 34 at Keokuk; and 45 at Sioux City.

WIND.—Northwest winds prevailed. The highest velocity reported was 56 miles per hour from the northwest, at Sioux City, Woodbury County, on the 8th.

FEBRUARY.

The month just past was the wettest February on record since statewide observations began in 1890 and the warmest with but two exceptions since that time. The average precipitation, 2.76 inches, was 1.70 inches above the normal for the month and the average temperature, 27.3° was 8.1° above the normal. The next greatest precipitation was 1.69 inches in 1908. In 1892 the mean temperature was 28.1° and in 1896 it was 27.4°. The most notable characteristics of the month were the heavy snow storm on the 5th; the heavy rains between the 13th and 18th; the long period of excessive cloudiness between the 11th and 18th, and the absence of severely cold weather. There were but few cold days, and those were not extremely so, as zero temperatures did not obtain over the southern half of the state, except on one or two days and then only on the high ground between the rivers. The coldest days were the 2d, 3d, 8th to 10th, and the 21st and 22d; the lowest temperature reported being 13° below zero on the 10th. The maximum temperatures were not exceptionally high but they averaged considerably above the normal.

The precipitation was the greatest on record for February, and practically all of it fell in the form of snow on the 5th or during the heavy rains between the 13th and 18th. The snow storm on the 5th was general and over the larger part of the state was heavy. The snow turned to rain or sleet in the late afternoon of the 5th which was attended in many localities by thunder and lightning. From the 11th to the 18th excessive cloudiness prevailed and between the 13th and 18th more rain fell than the normal amount for the whole month of February. The high temperature after the 10th caused the snow that fell on the 5th to melt rapidly and as the ground was frozen at that time, the water ran off quickly. This, together with the heavy rains between the 13th and 18th, caused an unprecedented high stage of all rivers and creeks for so early in the season. The snow was practically gone, and there was very little or no frost in the ground at the close of the month. On account of the warm, wet weather the country roads were in very bad condition.

TEMPERATURE.—The monthly mean temperature for the state, as shown by the records of 115 stations, was 27.3°, which is 8.1° above the normal for Iowa. By sections the mean temperatures were as follows: Northern section 24.1°, which is 7.9° above the normal; Central section, 27.4°, which is 7.8° above the normal; Southern section, 30.4°, which is 8.6° above the normal. The highest monthly mean was 34.6°, at Keokuk, Lee County, and the lowest monthly mean, 20.4°, at Sibley, Osceola County. The highest temperature reported was 71°, at Keokuk, Lee County, on the 1st; the lowest temperature reported was —13°, at Fayette, Fayette County, and at Washta, Cherokee County, on the 10th. The average monthly maximum was 54°, and the average monthly minimum was —2°. The greatest daily range was 51°, at Iowa Falls, Hardin County. The average of the greatest daily ranges was 38°.

PRECIPITATION.—The average precipitation for the state, as shown by the records of 124 stations, was 2.76 inches, which is 1.70 inches above the normal. By sections the averages were as follows: Northern section, 1.55 inches, which is 0.61 inch above the normal; Central section, 2.80 inches, which is 1.72 inches above the noreal; Southern section, 3.94 inches, which is 2.79 inches above the normal. The greatest amount, 5.46 inches, occurred at Lacona, Warren County, and the least, 0.50 inches, at Rock Rapids, Lyon County. The greatest amount in twenty-four hours, 2.50 inches, occurred at Ottumwa, Wapello County, on the 16th. Measurable precipitation occurred on an average of 6 days.

SNOW.—The average depth of unmelted snowfall was 7.0 inches; by sections the averages were as follows: Northern section, 6.6 inches; Central section, 8.2 inches; Southern section, 6.3 inches. The greatest depth was at Sioux City, Woodbury County, 13.2 inches; and the least depth was at Rock Rapids, Lyon County, 1.0 inch.

SUNSHINE AND CLOUDINESS.—The average number of clear days was 12; partly cloudy, 6; cloudy, 10. The duration of sunshine was below the normal, the percentage of the possible amount being 54 at Charles City; 50 at Davenport; 48 at Des Moines; 48 at Dubuque; 47 at Keokuk; and 56 at Sioux City.

WIND.—Northwest winds prevailed. The highest velocity reported was 51 miles per hour from the northwest, at Sioux City, Woodbury County, on the 1st.

THE WINTER OF 1910-1911.

The mean temperature for the three winter months was 25.4°, which is 3.9° above the normal for the State. The highest temperature reported was 71° at Keokuk, Lee County, on February 1st. The lowest temperature reported was 35° below zero at Inwood, Lyon County, and Washta, Cherokee County, on January 3d.

The average monthly precipitation for the State was 1.37 inches and the average total precipitation was 4.10 inches, or 0.76 inch above the winter normal. The average total snowfall, unmelted, was 17.3 inches or 13.0 inches less than for the winter of 1909-1910. The average number of days with .01 inch or more of precipitation was 14, or 6 less than the average for the winter of 1909-1910. The average number of clear days was 36; partly cloudy, 21; cloudy, 33, as compared with 37 clear; 20 partly cloudy and 33 cloudy days during the winter of 1909-1910.

AVERAGE WINTER TEMPERATURE FOR IOWA.

In Degrees Fahrenheit

Years	December	January	February	Winter mean
1890-1	29.1	26.0	19.4	24.8
1891-2	32.3	15.3	28.1	25.2
1892-3	18.9	9.3	16.4	14.9
1893-4	22.0	19.3	19.7	20.3
1894-5	30.1	13.6	16.4	20.0
1895-6	25.4	23.4	27.4	25.4
1896-7	30.8	17.2	24.7	24.2
1897-8	18.0	23.4	24.2	21.9
1898-9	18.1	19.8	12.2	16.7
1899-0	22.6	25.6	14.8	21.0
1900-1	26.9	23.7	17.5	22.7
1901-2	20.5	22.4	17.6	20.2
1902-3	20.1	23.0	19.8	21.0
1903-4	19.6	14.0	14.8	16.1
1904-5	23.4	11.2	12.8	15.8
1905-6	27.0	24.6	23.6	25.1
1906-7	25.7	18.8	25.0	23.2
1907-8	28.8	24.9	24.3	26.0
1908-9	27.2	21.2	26.2	24.9
1909-0	15.1	18.1	17.8	17.0
1910-1	23.4	20.2	27.3	25.4
Means	24.0	19.8	20.5	21.5

MARCH.

March 1911, prior to the 26th, was very pleasant, the temporature being considerably above the normal with very little precipitation. After the 26th, lower temperatures prevailed and snow storms were frequent. For the month as a whole the average temperature was 5.4° above and the precipitation 0.99 inch below the normal, making it the driest March, with two exceptions, on record since state-wide observations began. The 20th and 21st were the warmest days, when the maximum temperatures ranged from 70° in the northern to 80° at a few stations in the southern districts. The lowest temperature was recorded generally between the 15th and 18th, but at a few stations the minimum was recorded on the 1st or the 27th.

The most notable characteristics of the month were the high wind movement and the severe dust storms that prevailed in the northwestern counties, on the 24th and 29th.

While the temperature was considerably above the normal, the month was cold enough, especially during the latter half to retard the growth of vegetation and the development of fruit buds, and as a result the prospects are at present very promising for a fruit crop. Farmers were in the field early in the month, and much of the small grain was sown and considerable ground plowed preparatory to corn planting. Fall grains and grasses came through the winter in good condition notwithstanding the fact that much of the time there was no snow on the ground.

Temperature.—The monthly mean temperature for the state, as shown by the records of 114 stations, was 39.4°, which is 5.4° above the normal for Iowa. By sections the mean temperatures were as follows: Northern section, 37.8°, which is 6.6° above the normal; Central section, 39.5°, which is 5.3° above the normal; Southern section, 41.0°, which is 4.3° above the normal. The highest monthly mean was 43.2°, at Keokuk, Lee County, and the lowest temperature reported was 2°,, at Forest City, Winnebago County, highest temperature reported was 83°, at Ames, Story County, on the 21st; the lowest temperature reported was 2°, at Forest City, Winnebago County, on the 16th. The average monthly maximum was 75°, and the average monthly minimum was 10°. The greatest daily range was 53° at Little Sioux, Harrison County, Audubon, Audubon County, and at Woodburn, Clarke County. The average of the greatest daily ranges was 42°.

Precipitation.—The average precipitation for the state, as shown by the records of 122 stations, was 0.93 inch, which is 0.99 inch below the normal. By sections the averages were as follows: Northern section, 0.53 inch which is 1.20 inches below the normal; Central section, 0.81 inch, which is 1.17 inches below the normal; Southern section, 1.45 inches, which is 0.60 inch below the normal. The greatest amount, 4.84 inches, occurred at Fort Madison, Lee County, and the least, a trace, at Alton, Sioux County, and at Estherville, Emmet county. The greatest amount in twenty-four hours, 2.00 inches, occurred at Fort Madison, Lee County, on the 26th. Measurable precipitation occurred on an average of 4 days.

Snow.—The average depth of unmelted snow was 1.9 inches; by sections the averages were as follows: Northern section, 2.2 inches; Central section 1.3 inches; Southern section, 2.1 inches. The greatest depth was 8.0 inches at Rockwell City, Calhoun County; and the least, a trace at 17 scattered stations.

Sunshine and Cloudiness.—The average number of clear days was 16; partly cloudy, 9; cloudy, 6. The duration of sunshine was considerably above the normal, the percentage of the possible amount being 67 at Charles City; 71 at Davenport; 73 at Des Moines; 66 at Dubuque; 76 at Keokuk; and 66 at Sioux City.

Wind.—Northwest winds prevailed. The highest velocity reported was 56 miles per hour from the northwest, at Sioux City, Woodbury County, on the 29th.

Thunderstorms.—In the northern section 5 stations reported thunderstorms on the 21st; 7, on the 26th; 3, on the 27th; and 1 on the 28th. In the Central section 5 stations reported thunderstorms on the 26th; 1, on the 27th. In the southern section 2 stations reported thunderstorms on the 6th; 5, on the 7th; 2, on the 11th; 6, on the 12th; and 1 on the 22d.

APRIL.

The weather during April approached very nearly the normal conditions for that month, there being an average daily deficiency of 1.7° in temperature and an average excess of .26 inch of precipitation for the month. The first two weeks of the month were abnormally cold and stormy with heavy snow over the northern half of the state on the 5th and 6th. Many stations in the northern counties reported 3 to 12 inches of snowfall and temperatures between 3° and 10° on the 7th. Minimum temperatures were generally below freezing during the first half of the month, and below or only slightly above on many nights during the latter half, but the last five days were moderately warm. The absence of any abnormally warm weather kept vegetation and especially fruit buds very nearly dormant, and fruits of all kinds are blooming fully a month later than last year. The prospects at the close of the month are favorable for a bountiful crop of fruit of all kinds, except peaches, which were injured during the winter. The precipatition was well distributed throughout the month and fairly well distributed geographically, and occured in four distinct storm periods as follows: 2-7, 11-12, 18-19, 26-30, with the heaviest rainfall on the 29-30th. Considerable snow fell during the first period, the average monthly amount for the state being 3.6 inches, which is 1.6 inches above the normal. Thunderstorms occurred on several dates, and were in many localities accompanied by high winds, which did some damage to trees and buildings. At Sioux City, on the 12th, the wind attained a velocity of 90 miles per hour for a period of 2 minutes.

The month as a whole was favorable for farm work and the spring seeding was mostly completed, during the third week. A large acreage was plowed and prepared for corn, but practically no planting was done.

Temperature.—The monthly mean temperature for the State, as shown by the records of 114 stations, was 46.8°, which is 1.7° below the normal. By sections the mean temperatures were as follows: Northern section, 45.0°, which is 1.8° below the normal; Central section, 46.9°, which is 1.6° below the normal; Southern section 48.6°, which is 1.7° below the normal. The highest monthly mean was 50.7°, at Keokuk, Lee County, and the lowest monthly mean, 42.9°, at Forest City Winnebago County. The highest temperature reported was 86°, at Baxter, Jasper County, on the 30th; the lowest temperature reported was 3°, at Iowa Falls Hardin County, on the 7th. The average monthly maxima was 76°. and the average monthly minima 18°. The greatest daily range was 50°, at six stations. The average of the greatest daily ranges was 41°.

Precipitation.—The average precipitation for the State, as shown by the record of 122 stations, was 3.09 inches, which is .26 inch above the normal. By sections the averages were as follows: Northern section, 2.86 inches which is .39 inch above the normal; Central section, 3.31 inches, which is .44 inch above the normal; Southern section, 3.10 inches, which is .04 inch below the normal. The greatest amount, 6.04 inches, inches occurred in Winterset, Madison County, and the least, 1.33 inches, at Bedford, Taylor County. The greatest amount in twenty-four hours, 2.70 inches, occurred at Winterset, Madison County, on the 29th. Measurable precipitation occurred on an average of 9 days.

SNOW.—The average depth of unmelted snowfall was 3.6 inches which is 1.6 inches above the normal; by sections the amounts were as follows: Northern section, 7.0 inches; Central section 3.1 inches; and Southern section 0.7 inch. The greatest depth was 12.5 inches, at Fayette, Fayette County, and none occurred at six stations.

SUNSHINE AND CLOUDINESS.—The average number of clear days was 11, partly cloudy, 8; cloudy, 11. The duration of sunshine was about the normal, the percentage of the possible amount being 60 at Charles City; 59 at Devenport; 60 at Des Moines; 48 at Dubupue; 54 at Keokuk; and 45 at Sioux City.

WIND.—Southeast winds prevailed. The highest velocity reported was 73 miles per hour from the northwest, at Sioux City, Woodbury County, on the 12th.

CONDITION OF FRUIT TREES.

The Secretary of the State Horticultural Society reports the condition of the fruit trees and plants in Iowa, on May 10, 1911, as follows: "Apples, 92 per cent; pears, 66; plums, 95; cherries, 93; peaches, 16; grapes, 85; red raspberries, 74; black raspberries, 79; black berries, 88; currants, 87; gooseberries, 85; strawberries, 83 per cent of a full crop.

Very little damage reported to fruit bloom from the frost the first week in May. The low percentage on pears is due to the weak condition of the trees caused by the freeze of last year. The drouth of last season reduced the number of plants in many strawberry fields, which gives a lower percentage than usual. Anthracnose has reduced the vitality of raspberry plants in many places. There will not be much fruit on budded peach trees, but seedlings will give a fairly good crop. The outlook, on the whole is very promising for a good crop of fruit this year."

The condition of fruit on May 1, 1910, was given as follows: Apples, 8 per cent; pears, less than 1 per cent; American plums, 1 per cent; domestic plums, Japanese plums and peaches, less than 1 per cent; cherries, 6 per cent; grapes, 20 per cent; red raspberries, 10 per cent; black raspberries, 12 per cent; blackberries, 21 per cent; currants, 5 per cent; gooseberries, 4 per cent; strawberries, 38 per cent of a full crop.

MAY.

The first five days of the month were cool, the temperature being considerably below freezing in the northern counties, on one or more days, and slightly below freezing at many stations in the southern districts. From 1 to 4 inches of snow fell in the northern part of the state on the first, and snow flurries were quite general on that day in the central districts. After the 5th, the temperature was above the normal except on 2 or 3 days; the warmest period being from the 24th to the 26th, inclusive, when temperatures of 90°, or higher, were general, the highest, 98°, occurring at Fort Dodge, on the 25th. Most of the precipitation came in the form of local showers, which were well distributed throughout the month, and fairly well distributed geographically, except in the southeastern counties, where the rainfall was much below the normal, the lowest amount being in the extreme southeastern corner of the State, where there was no rainfall until the 19th, and only .42 inch during the month. Over the larger part of the state, precipitation was general on the 1st, from the 19th to the 22nd, and from the 27th to the 31st, with light and widely scattered showers between the 7th and 16th.

As a whole the month was unusually favorable for farm operations, and the growth of vegetation. Corn was practically all planted before the 20th; and, under the effects of high temperatures, it came up quickly and showed almost a perfect stand, and no replanting was necessary, except on sod ground where cut worms were somewhat more active than usual. The soil was in excellent tilth, and the fields were generally clean, most of the corn having been cultivated once before the close of the month. Small grain was very promising but the hay crop was below normal, owing to deficiency of moisture. Fruit prospects were never better. The continued low to moderate temperatures during March, April and the early part of May prevented early development of the buds, which did not bloom until toward the middle of May; and, as a result, they were not injured to any extent by the light to heavy frosts that occurred during the first few days of the month.

TEMPERATURE.—The monthly mean temperature for the state, as shown by the records of 112 stations was 64.9°, which is 4.8° above the normal for Iowa. By sections the mean temperatures were as follows: Northern section, 63.6°, which is 5.1° above the normal; Central section, 65.2°, which is 5.0° above the normal; Southern section, 66.0°, which is 4.4° above the normal. The highest monthly mean was 70.2°, at Keokuk, Lee County, and the lowest monthly mean, 61.4°, at Clarinda, Page County. The highest temperature reported was 98°, at Fort Dodge, Webster County, on the 25th and at Grundy Center, Grundy County, on the 27th; the lowest temperature reported was 23°, at Decorah ,Winnishiek County, on the third. The average monthly maximum was 92°, and the average monthly minimum was 30°. The greatest daily range was 48°, at Rock Rapids, Lyon County. The average of the greatest daily range was 38°.

PRECIPITATION.—The average precipitation for the state, as shown by the records of 119 stations, was 3.76 inches, which is 0.74 inch below the normal. By sections the averages were as follows: Northern section 3.95 inches, which is 0.60 inch below the normal; Central section, 4.25 inches, which is 0.22 inch below the normal; Southern section, 3.07 inches, which is 1.40 inches below the normal. The greatest amount, 8.73 inches, occurred at Fayette, Fayette County, and the least, 0.42 inch, at Keokuk, Lee County. The greatest amount in twenty-four hours, 2.50 inches, occurred at Osage, Mitchell County, on the 21st. Measurable precipitation occurred on an average of 9 days.

SNOW.—The average depth of unmelted snowfall was 0.7 inch; by sections as follows: Northern section, 1.7 inches, Central section 0.4 inch; Southern section, trace. The greatest fall was 4.0 inches, at Elma, Howard County, and at a number of stations none occurred.

SUNSHINE AND CLOUDINESS.—The average number of clear days was 16; partly cloudy, 9; cloudy, 6. The duration of sunshine was about the normal over the southwestern half of the state and above the normal over the northeastern half, the percentage of the possible amount being 79 at Charles City; 78 at Davenport; 60 at Des Moines; 70 at Dubupue; 77 at Keokuk; and 67 at Sioux City.

WIND.—South winds prevailed. The highest velocity reported was 48 miles per hour from the South, at Sioux City, Woodbury County, on the 14th.

JUNE.

The month was the hottest and driest June on record since statewide observations began in 1890. The average temperature, 75.5°, is 6.9° above the normal and 2. 5° above the record for June, 1894, which was the warmest June on record prior to the past month. The average rainfall, 1.82 inches, is 2.70 inches below the normal and 0.17 inch less than the average for the same month last year. The temperature was high most of the time during the month, with the warmest periods between the 2nd and 5th, 8th to 10th, 14th to 16th, 19th to 23d, 26th and 29th to 30th, when the maximum temperatures were above 90° at all stations, and 100° or above at several stations on two or more days in the central and southern districts. The coolest day, generally, was the 28th, when the minimum temperature was near or below 50°.

The rainfall came in the form of widely scattered local showers at long intervals, except over the northeastern counties, where the showers were quite frequent and the rainfall sufficient to keep all vegetation in fairly good condition. Over the southeastern, southern and northwestern counties the dought was severe, and all crops, except corn, suffered considerably. Early potatoes, garden truck, grass, pasturage, and the late small grains such as oats, spring wheat and barley, being damaged the most. Oats headed short and began ripening prematurely, thereby lowering the average condition of the crop materially. Early potatoes were nearly a failure. Pastures were bare at the close of the month, garden truck received serious damage, and the water supply was failing in many localities. Corn, however, made remarkably rapid growth, and at the end of the month much of it was more than waist high and practically all of it had been laid by.

TEMPERATURE.—The monthly mean temperature for the State, as shown by the records of 116 stations, was 75.7°, which is 6.9° above the normal for Iowa. By sections the mean temperatures were as follows: Northern section, 74.3°, which is 6.9° above the normal; Central section, 75.4, which is 6.4°, above the normal; Southern section,77.3°, which is 7.3° above the normal. The highest monthly mean was 79.6°, at Leon Decatur County, and the lowest monthly mean, 70.9°, at Grand Meadow, Clayton County. The highest temperature was 108°, at Ottumwa, Wapello County, on the 5th; the lowest temperature reported was 36°, at Elma, Howard County, on the 28th. The average monthly maxima was 100°, and the average monthly minima was 48°. The greatest daily range was 53°, at Larrabee, Cherokee County. The average of the greatest daily ranges was 38°.

Precipitation.—The average precipitation for the state, a shown by the records of 123 stations, was 1.82 inches, which is 2.70 inches below the normal. By sections the averages were as follows: Northern section, 2.18 inches, which is 2.39 inches below the normal; Central section, 2.32 inches, which is 2.05 inches below the normal; Soutern section, 0.95 inch, which is 3.67 inches below the normal. The greatest amount, 6.28 inches, occurred at Sigourney, Keokuk County, and the least, 0.66 inch, at Keosauqua, Van Buren County. The greatest amount in twenty-four hours, 3.55 inches, occurred at LeMars, Plymouth County, on the 26th. Measurable precipitation occurred on an average of 5 days.

Sunshine and Cloudiness.—The average number of clear days was 20; partly cloudy,8; cloudy, 2. The duration of sunshine was above the normal, the percentage of the possible amount being 86 at Charles City; 75 at Davenport; 71 at Des Moines; 68 at Dubuque 74 at Keokuk, and, 80 at Sioux City.

Wind.—Southeast winds prevailed. The highest velocity was 46 miles per hour from the northwest, at Sioux City, Woodbury County, on the 11th.

JULY.

The most notable characteristics of the month were the high temperatures that prevailed during the first five days; the unusually cool weather from the 11th to the 28th; the excessive amount of sunshine; and, over the larger part of the state, the continuance of the severe drought that has obtained for the past three months. From the 1st to the 5th inclusive, the temperature was excessively high, the maxima being 100° or above on one or more days at all but one station in the State. At many stations in the southwestern counties the temperature was above 100° every day from the 1st to the 5th, a record that has not been equalled since July, 1901. The highest temperature reported during that time was 111° at Bloomfield on the 3rd and at Jefferson and Keosauqua on the 5th. From the 6th to the 11th, inclusive, the weather was somewhat cooler, and between the 11th and 28th it was unusually cool for July, the 17th being the coolest day generally, although the lowest temperatures in the northeastern counties occurred between the 24th and 25th, when all previous records were broken for low temperatures during the last 15 days of July.

The severe drought that has obtained during the past 3 months continued over the larger part of the State during the entire month. In the eastern counties the drought was broken by copious showers on the 6th which were followed by fairly well distributed showers during the remainder of the month, with heavy rains on the 28th. Over the western two-thirds of the State, the drought continued with increased severity notwithstanding the fact that there was only one day, the 1st, during the month on which rain did not fall at some place in the State. The amounts of rainfall over the western counties were, however, too small, and the interval between showers at any one place too great to be of much benefit to crops. At the close of the month corn had suffered material injury, not only by the drought, but by the excessively high temperature during the first 5 days. The early corn received the most damage, as the pollen was mostly destroyed by the hot winds; and as a result there was poor and uneven fertilization, and in some localities there are many barren stalks.

Pastures were bare and afforded no feed for stock; early potatoes were practically a complete failure, and the late varieties were seriously injured and in a critical condition. All small streams are dry, wells are low and water for stock is very scarce; and, as a result, many farmers are selling their live stock. The drought is the worst that has prevailed since 1894, and the temperature during the first five days of the month was the highest ever recorded in the state so early in July, and the highest on record except during the hot wave in the latter part of July, 1901. The dry, sunshiny weather was, however, favorable for securing the hay and small grain crops and for thrashing. On account of the droughty conditions that prevailed during the spring and early summer months, the hay crop was very light, but small grain, especially winter wheat, turned out better than was anticipated.

TEMPERATURE.—The monthly mean temperature for the State, as shown by the records of 113 stations, was 75.5°, which is 2.1° above the normal for Iowa. By sections the mean temperatures were as follows: Northern section, 73.6°, which is 1.5° above the normal; Central section, 75.3°, which is 1.6° above the normal; Southern section, 77.5°, which is 3.0° above the normal. The highest monthly mean, 79.6°, at Leon, Decatur County, and the lowest monthly mean, 70.4°, at Elma, Howard County. The highest temperature reported was 111°, at Bloomfield, Davis County, on the 3d and 5th; and at Jefferson, Greene County, and Keosauqua, Van Buren County, on the 5th; the lowest temperature reported was 38°, at Elma, Howard County, on the 17th. The average of the monthly maxima was 106°, and the average of the monthly minima was 45°. The greatest daily range was 50°, at Decorah, Winnishiek County, and at Webster City, Hamilton County. The average of the greatest daily ranges was 40°.

PRECIPITATION.—The average precipitation for the state, as shown by the records of 123 stations, was 2.27 inches, which is 2.17 inches below the normal. By sections the averages were as follows: Northern section, 2.42 inches, which is 1.86 inches below the normal; Central section, 2.34 inches, which is 2.17 inches below the normal; Southern section, 2.04 inches, which is 2.50 inches below the normal. The greatest amount, 6.62 inches, occurred at Elkader, Clayton County, and the least, 0.08 inch, at Jefferson, Greene County. The greatest amount in twenty-four hours, 2.73 inches, occurred at Davenport, Scott County, on the 28th. Measurable precipitation occurred on an average of 7 days.

SUNSHINE AND CLOUDINESS.—The average number of clear days was 18; partly cloudy, 10; cloudy, 3. The duration of sunshine was above the normal, the percentage of the possible amount being 87 at Charles City; 77 at Davenport; 83 at Des Moines; 71 at Dubuque; 80 at Keokuk; and 82 at Sioux City.

WIND.—South winds prevailed. The highest velocity reported was 41 miles per hour from the northwest, at Sioux City, Woodbury County, on the 23d.

AUGUST.

August was, as a whole, a very pleasant month; both the average temperature and rainfall were very nearly the normal for the state, the temperature being only 0.1°, and the rainfall .67 inch below the normal. With the exception of the 10th, 14th, 15th, and 16th, when the highest temperatures for the month were recorded, the weather was moderate, yet there was sufficient heat to promote the healthful growth of vegetation, and corn made rapid advancement toward maturity. The only cool period was on the 28th and 29th, when light frost was observed on low ground in some localities in the northern districts, but no damage was done to staple crops. The rainfall was very unevenly distributed, the monthly amounts ranging from less than an inch in Mahaska, Lucas, Keokuk, Jefferson and Wapello Counties to over 9 inches in Winneshiek County. Over the northeastern quarter of the state and in a few localities in the northwestern counties, the rainfall was considerably above the normal, but over most of the southern and southwestern sections the drought continued during the entire month, and yet there was not much deterioration in the condition of crops, as the few showers that did occur were sufficiently heavy to keep all vegetation, except pasturage, alive. The heavy rains in the northeastern counties caused rapid growth of all vegetation, but retarded threshing, and in some localities where the showers were accompanied by high winds, hail and lightning, considerable damage was done to crops, buildings and trees. As a whole, the month afforded an average amount of sunshine, and corn dried or matured rapidly. A large proportion of the crop was well dented at the close of the month, and much of it was beyond danger of a moderately heavy frost. The bulk of the threshing was completed, and, except in the northeastern counties, the grain was secured in good condition. A large crop of apples, plums and grapes were being harvested at the close of the month, and the fruit, though smaller than usual, was of good quality.

TEMPERATURE.—The monthly mean temperature for the State, as shown by the records of 118 stations, was 71.7°, which is 0.1° below the normal for Iowa. By sections the mean temperatures were as follows: Northern section, 69.4°, which is 0.9° below the normal; Central section, 71.5°, which is 0.4° below the normal; Southern section, 74.3°, which is 1.0° above the normal. The highest monthly mean was 78.4°, at Leon, Decatur County, and the lowestly monthly mean, 66.2°, at Elma, Howard County. The highest temperature reported was 107°, at Bedford, Taylor County, on the 15th; the lowest temperature reported was 34°. at Larrabee, Cherokee County, on the 28th. The average monthly maximum was 97°, and the average monthly minimum was 43°. The greatest daily range was 54°, at Keosauqua, Van Buren County. The average of the greatest daily ranges was 37°.

PRECIPITATION.– The average precipitation for the state, as shown by the records of 126 stations, was 3.32 inches, which is 0.67 inch below the normal. By sections the averages were as follows: Northern section, 4.13 inches, which is 0.65 inch above the normal; Central section, 3.68 inches, which is 0.37 inch below the normal; Southern section, 2.14 inches, which is 2.26 inches below the normal. The greatest amount, 9.47 inches, occurred at Ridgeway, Winnishiek County, and the least, 0.44 inch, at Chariton, Lucas County. The greatest amount in twenty-four hours, 3.75 inches, occurred at Dubuque, Dubuque County, on the 10-11th. Measurable precipitation occurred on an average of 9 days.

Sunshine and Cloudiness.—The average number of clear days was 16; partly cloudy, 10; cloudy, 5. The duration of sunshine was about the normal, the percentage of the possible amount being 76 at Charles City; 75 at Davenport; 75 at Des Moines; 63 at Dubuque; 76 at Keokuk; and 70 at Sioux City.

Wind.—Southeast winds prevailed. The highest velocity reported was 42 miles per hour from the west, at Sioux City, Woodbury County, on the 6th.

SEPTEMBER.

From the view point of the agriculturist, September, 1911, was a very favorable month. The temperature was above the normal, and no damaging frosts occurred. The drought that had prevailed during most of the crop season, in the southern and western counties, was broken, and all parts of the state received copious to heavy rains and at the close of the month there was abundance of water for all purposes. Water was flowing in many small streams for the first time since May; grass was green and growing rapidly; the ground was soft and moist and much plowing and seeding had been done and fall grains were looking well; practically all of the corn was ripe and beyond danger of injury by frost, and late potatoes that on September 1st were thought to be a failure give promise of good yields. The only real hot day was the 1st, when the temperature was 90°, or above, except in the extreme northern part of the state. The rest of the time the temperature was moderate, but it was about normal or slightly above most of the time. The coldest day was on the 19th, when minimum temperatures of 32° were recorded at 3 stations. This low mark, is, with one exception, the highest September minimum recorded in the state during the past 22 years. In September, 1905, the lowest temperature recorded in the state was 36°.

The average rainfall is 5.12 inches, which is the greatest amount recorded in Iowa during September since state-wide observations began in 1890. Showers were fairly well distributed throughout the month, but the amounts of rainfall were much greater in the southeastern counties than in other parts of the state. In the southwestern and west central districts, where the drought had been the most severe, the rainfall was generally light until near the close of the month, but heavy showers occurred in those sections on the 28th and 30th. In the southeastern counties the rainfall was excessively heavy, and in many localities caused considerable damage. Bottom lands were overflowed and corn in shock materially injured. Thunderstorms were frequent and more than the usual amount of damage was done by lightning. In a few cases the thunderstorms were accompanied by severe wind squalls, but the only storm of a tornado character occurred in Madison County on the afternoon of the 6th.

Temperature.—The monthly mean temperature for the state, as shown by the records of 114 stations, was 65.8°, which is 2.1° above the normal for Iowa. By sections the mean temperatures were as follows. Northern section, 63.1°, which is 1.0° above the normal; Central section, 65.6°, which is 2.0° above the normal. Southern section, 68.7°, which is 3.2° above the normal. The highest monthly mean was 70.7°, at Bedford, Taylor County, and the lowest monthly mean, 60.3°, at Estherville, Emmet County, and at Sibley, Osceola County. The highest temperature reported was 103°, at Ottumwa, Wapello County, on the 1st; the lowest temperature reported was 32°, at Council Bluffs, Pottawattamie County, Inwood, Lyon County, and at Washta, Cherokee County, on the 19th. The average of the monthly maxima was 95°, and the average of the monthly minima was 40°. The greatest daily range was 53°, at Pella, Marion County. The average of the greatest daily ranges was 40°.

Precipitation.—The average precipitation for the state, as shown by the records of 121 stations, was 5.12 inches, which is 1.71 inches above the normal. By sections the averages were as follows: Northern section, 3.90 inches, which is 0.49 inch above the normal; Central section, 5.23 inches, which is 1.99 inches above the normal. Southern section 6.23 inches which is 2.66 inches above the normal. The greatest amount, 13.73 inches, occurred at Bloomfield, Davis County, and at Wapello, Louisa County, and the least, 1.19 inches, at Logan, Harrison County. The greatest amount in twenty-four hours, 7.00 inches, occurred at Bloomfield, Davis County, on the 28th. Measurable precipitation occurred on an average of 10 days.

Snow.—The only snowfall reported in the state was a trace at Elma, Howard County, on the 24th.

Sunshine and Cloudiness.—The average number of clear days was 11; partly cloudy, 9; cloudy, 10. The duration of sunshine was below the normal, the percentage of the possible amount being 65 at Charles City; 50 at Davenport; 55 at Des Moines; 53 at Dubuque; 50 at Keokuk; and 39 at Sioux City.

Wind.—Southeast winds prevailed. The highest velocity reported was 41 miles per hour from the south, at Sioux City, Woodbury County, on the 22d.

OCTOBER.

As a whole, October, 1911, was cold and wet, yet there were no exceptionally cold or wet periods; and, notwithstanding the fact that the temperature was below the normal much of the time, the first killing frost of autumn did not occurr until 10 or 12 days after the average date of past years which was due to an excessive amount of cloudy and foggy weather. The first six days of the month were warm, with frequent and general showers, the highest temperatures being recorded on the 3d. Most of the rain fell in two general stormy periods, the first between the 1st and 7th, and the second between the 12th and 16th. The last 15 days of the month were colder than usual, but they gave more clear weather than obtained during the early part of the month, and were favorable for drying out the corn crop and for farm work. Killing frosts occurred in the extreme northern part of the state on the 8th, but no damage was done except to vines and garden truck, as all staple crops were fully matured. The freezing weather, later in the month, did, however, injure potatoes in the ground. Killing frosts did not occur in the central and southern districts, until the 21st or 22d. The first snow of the season of any conequence fell on the 26th. Considerable corn was put in cribs in good condition, and the yield of this staple was found to be somewhat better than was anticipated at the 1st of September. Late potatoes also turned out better than was anticipated earlier in the season, and the largest and one of the best crops of apples ever harvested in this state was secured.

Much plowing and seeding of winter grains was done, and the early sown grain was up and showed a good stand. Pasturage was exceptionally good at the close of the month and will furnish much winter feed. The water supply increased, and wells and streams now afford sufficient amount for all purposes.

TEMPERATURE.—The monthly mean temperature for the State, as shown by the records of 111 stations, was 48.7°, which is 3.2° below the normal for Iowa. By sections, the mean temperatures were as follows: Northern section, 46.3°, which is 3.8° below the normal; Central section, 48.9°, which is 2.9° below the normal; Southern section, 50.8°, which is 3.0° below the normal. The highest monthly mean was 52.9° at Northboro, Page County, and the lowest monthly mean, 43.5°, at Sibley Osceola County. The highest temperature reported was 87°, at Bloomfield, Davis County, and Burlington, Des Moines County, on the 3d; the lowest temperature reported was 14°, at Washta, Cherokee County, on the 28th. The average monthly maximum was 77°, and the average monthly minimum was 23°. The greatest daily range was 44°, at Council Bluffs, Pottawattamie County. The average of the greatest daily ranges was 32.

PRECIPITATION.—The average precipitation for the state, as shown by the records of 121 stations, was 3.34 inches, which is 0.99 inch above the normal. By sections the averages were as follows: Northern section, 4.08 inches, which is 1.81 inches above the normal; Central section, 3.36 inches, which is 0.92 inch above the normal; Southern section, 2.58 inches, which is 0.23 inch above the normal. The greatest amount, 7.03 inches, occurred at Marshalltown, Marshall County, and the least, 0.73 inch, at Northboro, Page County. The greatest amount in any 24 hours, 4.10 inches, occurred at Marshalltown, Marshall County, on the 1st. Measurable precipitation occurred on an average of 10 days.

SNOW.—The first general snowfall of the season occurred on the 26th, averaging about 1.5 inches over the northern third of the state. The average for the state for the month was 0.6 inch.

SUNSHINE AND CLOUDINESS.—The average number of clear days was 12; partly cloudy, 8; cloudy, 11. The duration of sunshine was below the normal, the percentage of the possible amount being 56 at Charles City; 41 at Davenport; 53 at Des Moines; 41 at Dubuque, 40 at Keokuk; and 54 at Sioux City.

WIND.—Northwest winds prevailed. The highest velocity reported was 39 miles per hour from the northwest, at Sioux City, Woodbury County, on the 3d.

NOVEMBER.

As a whole, November, 1911, was cold and cloudy, the mean temperature being 29.9°, which is only 0.3° higher than the mean for November, 1896, which is the lowest November mean on record. The weather was cloudy a great deal of the time, but the precipitation was nearly normal, there being an excess of only 0.03 inch. The most notable features of the month were the high temperatures, especially over the eastern part of the state, on the forenoon of the 11th, and the sudden and decided fall in temperature during the afternoon of that date and the night of the 11th-12th. In the eastern part of the state, the morning of the 11th opened clear and warm with spring-likke thundershowers during the forenoon, and the temperature up to or above 70° by 1 p. m. About noon in the northeastern and 1 p. m. in the southeastern counties, the wind suddenly shifted from the southwest to the northwest; the temperature began falling rapidly, and the rain soon changed to snow or sleet, finally developing into a genuine blizzard. The temperature continued to fall during the entire afternoon, and the following night, and at Keokuk it was down to 11° on the morning of the 12th, making a range of 68° in about 18 hours. Between 1.55 p. m. and 2.55 p. m. of the 11th, the temperature fell 37°, and between 12 noon and 12 midnight there was a fall in temperature of 65°. In the northwestern counties the temperature was below zero on the morning of the 12th, and at many stations it was the lowest ever recorded during the first half of November. In Scott County, the cold wave was immediately preceded by severe local storms; a tornado of moderate intensity appeared about one mile west of Davenport, and moved northeastward about 7 miles, causing damage estimated at about $3,000. In the northern part of the state the ground, streams, and pools were frozen on the 12th, and remained so during the rest of the month. In the southern counties, much corn molded in the shock on account of the heavy rains during the latter half of October and the continued damp weather during the early part of November, and the same conditions retarded corn husking. In the northern and western counties, however, the conditions were more favorable for harvesting the crop, and probably 85 per cent to 90 per cent of the corn was in the cribs at the close of the month. Sufficient snow fell over the northeastern counties on the 27-28th to make good sleighing during the remainder of the month.

TEMPERATURE.—The monthly mean temperature for the state, as shown by the records of 115 stations, was 29.9°, which is 6.0° below the normal for Iowa. By sections the mean temperatures were as follows: Northern section, 26.9°, which is 7.0° below the normal; Central section, 30.2°, which is 5.5° below the normal; Southern section, 32.6°, which is 5.6° below the normal. The highest monthly mean was 36.0°, at Northboro, Page County, and the lowest monthly mean, 24.0°, at Forest City, Winnebago County, and Sibley, Osceola County. The highest temperature reported was 79°, at Keokuk, Lee County, on the 11th; the lowest temperature reported was—8°, at Guthrie Center, Guthrie County, on the 12th. The average monthly maximum was 59°, and the average monthly minimum was zero. The greatest daily range was 65°, at Keokuk, Lee County, on the 11th. The average of the greatest daily ranges was 42.

Precipitation.—The average precipitation for the state, as shown by the records of 118 stations, was 1.42 inches, which is 0.03 of an inch above the normal. By sections the averages were as follows: Northern section, 0.94 inch, which is 0.37 of an inch below the normal; Central section, 1.63 inches, which is 0.20 of an inch above the normal; Southern section, 1.68 inches, which is 0.24 of an inch above the normal. The greatest amount, 4.99 inches, occurred at LeClaire, Scott County, and the least, 0.11 of an inch, at Odebolt, Sac County. The greatest amount in twenty-four hours, 1.82 inches, occurred at Delaware, Delaware County, on the 9th. Measurable precipitation occurred on an average of 6 days.

Snow.—The average depth of unmelted snowfall was 1.6 inches.

Sunshine and Cloudiness.—The average number of clear days was 11; partly cloudy, 8; cloudy, 11. The duration of sunshine was below the normal; the percentage of the possible amount being 47 at Charles City; 38 at Davenport; 57 at Des Moines; 35 at Dubuque; 49 at Keokuk; and 51 at Sioux City.

Wind.—Northwest winds prevailed. The highest velocity reported was 48 miles an hour from the northwest, at Sioux City, Woodbury County, on the 19th.

DECEMBER.

December, 1911, will go on record as one of the pleasantest winter months ever experienced in Iowa. The first 15 days were exceptionally fine, with an abundance of bright sunshine and mild temperatures, the only storm of importance during that period being a general rain on the 9th and 10th, which was very beneficial in replenishing the water supply. The latter half of the month was more seasonable, but there was no real cold weather until the 27th, when the minimum temperatures were below zero over the larger part of the state. Snow storms were, however, quite frequent between the 20th and the end of the month, the snowfall being heavy on the 20, 21, 22, 26, 30, and 31, and the sleighing was excellent after the 26th. The first cold wave of the month occurred on the 27th and 28th, which caused temperatures below zero in all parts of the state, except the extreme southeastern counties. The monthly mean temperature is 27.9°, which has been exceeded but once, 1907, since 1896, and only five times during the past 22 years. In regard to precipitation, the month was the wettest December since state-wide observations began in 1890. Fall sown grains were well protected by a heavy mantle of snow during the severe cold weather, and were reported as being in good condition at the close of the month.

TEMPERATURE.—The monthly mean temperature for the state, as shown by the records of 114 stations, was 27.9°, which is 4.3° above the normal for Iowa. By sections the mean temperatures were as follows: Northern section, 25.0°, which is 4.1° above the normal; Central section, 28.1°, which is 4.3° above the normal; Southern section, 30.5°, which is 4.3° above the normal. The highest monthly mean was 34.9°, at Keokuk, Lee County, and the lowest monthly mean was 21.3°, at Sibley, Osceola County. The highest temperature reported was 60°, at Keokuk, Lee County, on the 10th; the lowest temperature reported was —24°, at Washta, Cherokee County, on the 28th. The average monthly maximum was 53°, and the average monthly minimum was —11°. The greatest daily range was 49°, at Woodburn, Clarke County. The average of the greatest daily ranges was 36°.

PRECIPITATION.—The average precipitation for the state, as shown by the records of 121 stations, was 2.57 inches, which is 1.38 inches above the normal. By sections the averages were as follows: Northern section, 2.65 inches, which is 1.62 inches above the normal; Central section, 2.55 inches, which is 1.35 inches above the normal; Southern section, 2.52 inches, which is 1.19 inches above the normal. The greatest amount, 4.43 inches, occurred at New Hampton, Chickasaw County, and the least, 0.62 of an inch, at Inwood, Lyon County. The greatest amount in any consecutive 24 hours was 2.98 inches, at New Hampton, on the 10th. Measurable precipitation occurred on an average of 7 days.

SNOW.—The average depth of snowfall was 12.6 inches. By sections the averages were as follows: Northern section, 13.8 inches; Central section, 12.0 inches; Southern section, 12.1 inches. The greatest monthly amount was 27.0 inches, at Northwood, Worth County.

SUNSHINE AND CLOUDINESS.—The average number of clear days was 13; partly cloudy, 6; cloudy, 12. The duration of sunshine was above the normal, the percentage of the possible amount being 46 at Davenport; 51 at Des Moines; 49 at Dubuque; 45 at Keokuk; and 48 at Sioux City.

WIND—Southwest winds prevailed. The highest velocity reported was 46 miles an hour from the northwest, at Sioux City, Woodbury County, on the 31st.

ANNUAL NORMALS FOR IOWA, 1890-1911.

Normal annual temperature, 47.9°.
Warmest year, 1894, with mean temperature of 49.7°.
Coldest year, 1893, with mean temperature of 45.7°.
Normal annual precipitation, 31.58 inches.
Wettest year, 1902, with total precipitation of 43.82 inches.
Driest year, 1910, with total precipitation of 19.87 inches.
Average annual snowfall (unmelted) 30.4 inches.
Greatest annual snowfall, 49.0 inches in 1909.
Least annual snowfall, 19.2 inches in 1894.

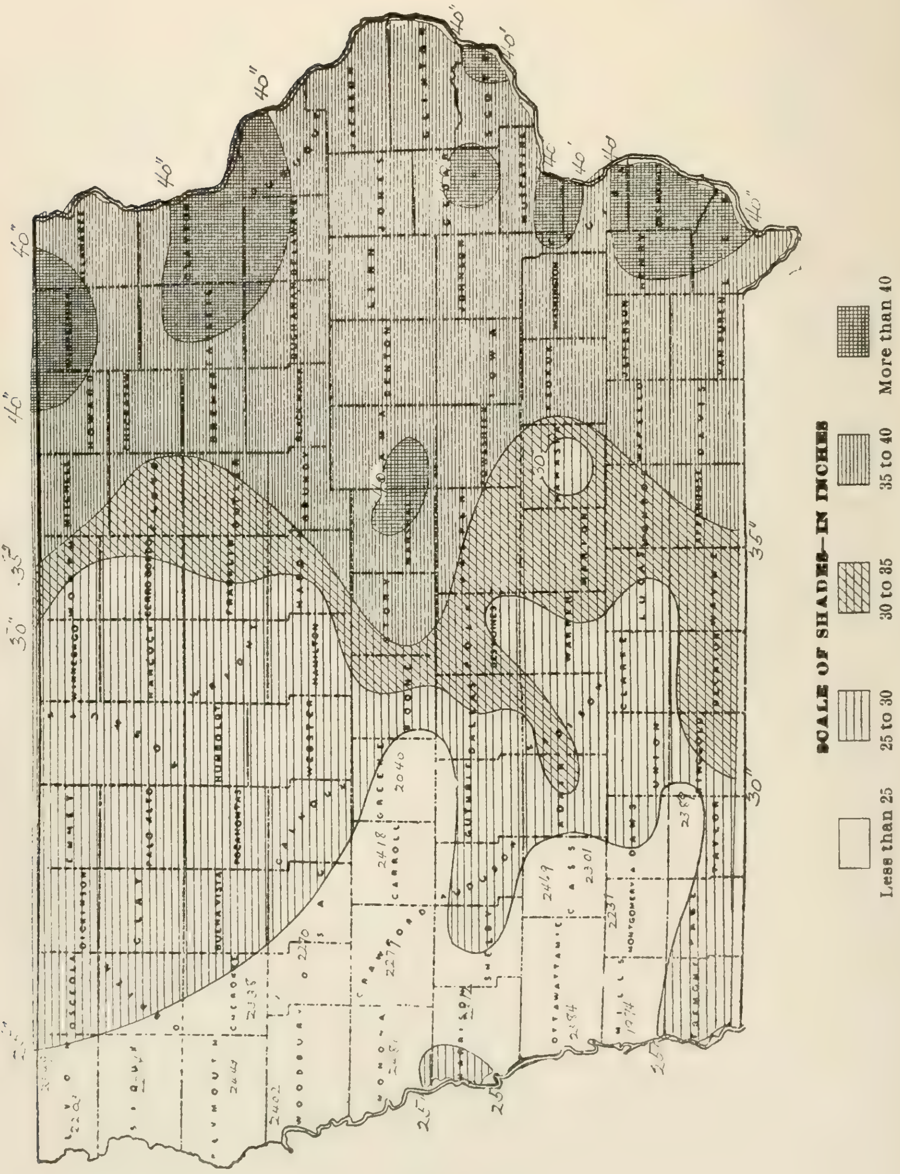
Average number of days with 0.01 inch or more of precipitation, 81.
Prevailing wind direction, northwest.
Average number of clear days, 163; partly cloudy, 104; cloudy, 98.

COMPARATIVE DATA FOR THE STATE ANNUAL.

	Temperature					Precipitation in inches			
	Mean annual	Highest	Date	Lowest	Date	Annual	Greatest annual	Least annual	Av. snowfall
1890	48.0	110	July 13	—27	January 22	31.30	45.74	16.00	----
1891	47.3	106	August 9	—31	February 4	32.90	49.05	23.48	----
1892	46.6	104	July 11	—38	January 19	36.58	48.77	24.78	34.2
1893	45.7	102	July* 13	—36	January 14	27.59	33.27	19.19	37.2
1894	49.7	109	July 26	—37	January 25	21.94	29.81	15.65	19.2
1895	47.2	104	May 28	—33	February 1	26.77	35.25	18.57	26.0
1896	48.6	104	July 3	—20	January 4	37.23	51.60	28.68	22.6
1897	47.8	106	July* 23	—30	January 25	26.98	36.18	20.21	38.8
1898	47.7	103	August 20	—25	December 31	31.34	55.47	19.51	40.3
1899	47.3	104	September 6	—40	February 11	28.68	42.06	21.79	23.4
1900	49.3	103	August 3	—27	February 15	35.05	47.33	25.05	25.8
1901	49.0	113	July 22	—31	December 15	24.41	37.69	16.35	38.5
1902	47.7	98	July 30	—31	January 27	43.82	58.80	20.14	28.0
1903	47.2	101	August 24	—27	December 13	35.39	50.53	26.41	19.4
1904	46.3	100	July 17	—32	January 27	28.51	38.93	19.34	29.2
1905	47.2	104	August 11	—41	February 2	36.56	52.26	24.66	38.3
1906	48.4	102	July 21	—32	February 10	31.60	44.34	20.63	32.8
1907	47.4	102	July 5	—31	February 5	31.61	43.90	19.93	24.0
1908	49.5	101	August 3	—18	January 29	35.26	49.98	24.11	22.7
1909	47.4	103	August* 15	—26	February* 15	40.01	53.48	27.20	49.0
1910	48.6	108	July 16	—35	January 7	19.87	27.99	12.11	23.4
1911	49.5	111	July* 3	—35	January 3	31.37	46.77	19.74	35.3

* And other dates.

TOTAL PRECIPITATION, 1911


40"
35"
30"
25"
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
CLAY
PALO ALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
TAMA
BENTON
LINN
JONES
JACKSON
CLINTON
CEDAR
SCOTT
MUSCATINE
JOHNSON
IOWA
POWESHIEK
MARSHALL
STORY
BOONE
GREENE
CARROLL
CRAWFORD
MONONA
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
MAHASKA
KEOKUK
WASHINGTON
LOUISA
DES MOINES
HENRY
LEE
JEFFERSON
VAN BUREN
WAPELLO
DAVIS
MONROE
APPANOOSE
LUCAS
WAYNE
DECATUR
CLARKE
UNION
RINGGOLD
TAYLOR
ADAMS
MADISON
WARREN
MARION
CASS
ADAIR
POTTAWATTAMIE
MONTGOMERY
MILLS
FREMONT
PAGE
WOODBURY
PLYMOUTH
CHEROKEE
SIOUX
LYON
O'BRIEN
IDA
SAC
2040
2418
2277
2270
2335
2444
2402
2451
2469
2301
2231
2184
1974
2380
SCALE OF SHADES—IN INCHES
□ Less than 25
▤ 25 to 30
▨ 30 to 35
▥ 35 to 40
▦ More than 40

DATES OF KILLING FROSTS, 1911

STATIONS	Killing Frosts		STATIONS	Killing Frosts		STATIONS	Killing Frosts	
	Last in Spring	First in Autumn		Last in Spring	First in Autumn		Last in Spring	First in Autumn
Afton	May 2*	Oct. 22*	Elliott	May 2	Oct. 8	Odebolt	May 2*	Oct. 21
Albia	May 2*	Oct. 22	Elma	May 5*	Oct. 8	Olin	May 4*	Oct. 23
Algona	May 3*	Oct. 20*	Estherville	May 3	Oct. 25	Omaha, Nebr.	April 9	Oct. 23
Allerton	May 2	Oct. 22	Fairfield	April 7*	Oct. 22	Onawa	May 2	Oct. 21
Alta	May 3*	Oct. 21	Fayette	May 5	Oct. 20	Osage	May 3*	Oct. 21
Alton	May 3*	Oct. 19	Forest City	May 3*	Oct. 8	Oskaloosa	May 2	Oct. 21
Amana	May 3*	Oct. 22	Fort Dodge	May 3*	Oct. 20	Ottumwa	May 2*	Oct. 22
Ames	May 2*	Oct. 21*	Grand Meadow	May 3*	Oct. 20	Pacific Junction	May 4*	Oct. 21
Atlantic	May 2*	Oct. 21	Greenfield	May 2	Oct. 20	Pella	May 5*	Oct. 22
Audubon	May 2	Oct. 21	Grinnell	May 2	Oct. 21	Perry	May 1	Oct. 21
Baxter	May 2	Oct. 21	Grundy Center	May 3*	Oct. 20*	Plover	May 3*	Oct. 8*
Bedford	May 2	Oct. 20	Guthrie Center	May 2*	Oct. 21	Pocahontas	May 3*	Oct. 8
Belle Plaine	May 3*	Oct. 21	Hampton	May 2*	Oct. 20	Ridgeway	April 22	Oct. 21
Belmond	May 4*	Oct. 20	Harlan	May 2	Oct. 20	Rock Rapids	May 4*	Oct. 8
Bloomfield	----------	Oct. 21	Humboldt	May 5*	Oct. 20	Rockwell City	May 3*	Oct. 8*
Bonaparte	May 2*	Oct. 22*	Independence	May 5*	Oct. 21	Sac City	May 2*	Oct. 20
Boone	May 2	Oct. 21	Indianola	May 2	Oct. 21	St. Charles	May 2	Oct. 22
Britt	May 3*	Oct. 8	Inwood	May 3*	Oct. 20	Sheldon	May 4*	Oct. 8*
Burlington	April 9*	Oct. 22	Iowa City	May 3	Oct. 22	Sibley	May 4*	Oct. 8
Carroll	May 2*	Oct. 8*	Iowa Falls	May 5*	Oct. 8	Sigourney	May 3	Oct. 21
Cedar Rapids	May 3*	Oct. 22	Jefferson	May 5*	Oct. 8*	Sioux Center	May 3*	Oct. 19*
Centerville	May 2	Oct. 21	Keokuk	April 9	Oct. 22	Sioux City	May 2	Oct. 21
Chariton	May 2	Oct. 20	Keosauqua	May 3*	Oct. 22	Spencer	----------	Oct. 20
Charles City	May 3	Oct. 21	Knoxville	April 15*	Oct. 22*	Stockport	May 3	Oct. 22
Clarinda	May 2*	Oct. 21	Lamoni	May 2*	Oct. 22	Storm Lake	May 2	Oct. 20
Clear Lake	May 3*	Oct. 21*	Larrabee	May 6*	----------	Thurman	May 2*	Oct. 21*
Clinton	May 2	Oct. 24	Le Mars	May 2*	Oct. 21	Tipton	May 2*	Oct. 27*
Columbus Junction	May 3	Oct. 23	Lenox	May 2	Oct. 20	Toledo	May 3*	Oct. 20*
Corning	April 16*	Oct. 23	Leon	May 2	Oct. 22	Wapello	April 7*	Oct. 21
Corydon	----------	Oct. 21	Little Sioux	May 2	Oct. 21	Washington	April 9*	Oct. 21
Council Bluffs	May 4*	Oct. 20	Logan	May 2*	Oct. 8*	Washta	May 5*	Oct. 8
Creston	May 2*	Oct. 20	Marshalltown	May 2*	Oct. 20	Waterloo	May 3*	Oct. 21
Davenport	May 2	Oct. 27	Mason City	May 5	Oct. 8	Waukee	April 9	Oct. 21
Decorah	May 5*	Oct. 8*	Monroe	----------	Oct. 20	Waverly	May 3*	Oct. 22
Delaware	May 3*	Oct. 21	Mt. Ayr	May 2*	Oct. 21	Webster City	May 3*	Oct. 8
Denison	May 2*	Oct. 21	Mt. Pleasant	May 3*	Oct. 22	West Bend	May 3	Oct. 21
Des Moines	April 9	Oct. 22	Murray	May 2*	Oct. 21*	Whitten	May 4*	Oct. 8
Dubuque	May 2	Oct. 24	New Hampton	May 3*	Oct. 21*	Winterset	May 2*	Oct. 22
Earlham	May 2*	Oct. 21	Northboro	----------	Oct. 22	Woodburn	May 5*	Oct. 21*
Elkader	May 5*	Oct. 8*	Northwood	May 3*	Oct. 9			

* Date of last temperature of 32 degrees or lower in spring or first temperature of 32 degrees or lower in fall, as the case may be, when frost was not recorded.

CLIMATE AND CROP REVIEW

CROP SEASON, 1911

In some respects, the year 1911 was decidedly unfavorable for agriculture and other industries of Iowa, but the damaging effects of drought and excessively high temperatures during a part of the crop season were, in a measure, compensated by favorable conditions during the remainder of the season, so that the final output was, with a few exceptions, nearly up to the normal, and the value was far in excess of any previous year in the history of the state.

January was a very pleasant month, with comparatively few cold days and no severe storms, but considerable damage was done in the southeastern counties by rain on the 13th and 14th, which froze on trees, vines and walks as it fell, covering them with a heavy coat of ice. The absence of snow during the larger part of the month, especially in the southern counties, allowed stock to be on pasture throughout the month, and highways were in fine condition.

February was the wettest and, with one exception, the warmest month of that name on record since state-wide observations began in 1890. The notable characteristics of the month were the heavy snow storm on the 5th; the heavy rains between the 13th and 18th; the long period of excessive cloudiness between the 11th and 18th, and the absence of severely cold weather. The high temperatures after the 10th caused the snow that fell on the 5th to melt rapidly, and as the ground was frozen at that time, the water ran off quickly. This, together with the heavy rains between the 13th and 18th, caused an unprecedented high stage of all rivers and creeks for so early in the season. The snow was practically gone, and there was very little or no frost in the ground at the close of the month.

The weather during the first 25 days of March was very pleasant, the temperature being considerably above the normal, with very little precipitation. After the 26th lower temperature prevailed and snowstorms were frequent. Although the temperature was above the normal, it was sufficiently low during the latter half of the month to retard the growth of vegetation and the development of fruit buds. Farmers were in the fields early in the month, and much of the small grain was sown and considerable ground plowed preparatory to corn planting. Small grains and grasses came through the winter in good condition, notwithstanding the fact that much of the time there was no snow on the ground.

The first two weeks of April were abnormally cold and stormy with heavy snow over the northern half of the state on the 5th and 6th, when

3 to 12 inches fell. On the 7th, the minimum temperatures in the northern counties ranged from 3° to 10°, and freezing temperatures generally prevailed during the first half of the month, and on many nights during the latter half. The last five days were, however, moderately warm. The continued cold weather kept vegetation, and especially fruit buds very nearly dormant, and fruits of all kinds bloomed fully a month later than in 1910. The month, as a whole, was favorable for farm work, and the spring seeding was practically completed during the third week. A large acreage was plowed and prepared for corn, but very little or no planting was done.

The first five days of May were cool; the temperature being considerably below freezing in the northern counties, on one or more days, and slightly below freezing at many stations in the southern districts. From one to four inches of snow fell in the northern part of the state on the 1st, and snow flurries were quite general on that day in the central districts. After the 5th the temperature was above the normal except on 2 or 3 days. The rainfall was below the normal, and especially in the southeastern corner of the state, where no rain fell until the 19th, and only .42 inch during the month. As a whole, the month was unusually favorable for farm operations and the growth of vegetation. Corn was practically all planted before the 20th: and under the effects of high temperatures it came up quickly and showed almost a perfect stand. No replanting was necessary except on sod ground, where cut worms were somewhat more active than usual. The soil was in excellent condition, and the fields were generally clean, most of the corn having been cultivated once before the close of the month. Small grain was very promising, but the condition of the hay crop was below normal, owing to deficiency of moisture. Fruit did not bloom until about the middle of the month, after the last frost occurred.

June was the hottest and driest month of that name on record, there being an excess of 6.9° in temperature and a deficiency of 2.70 inches of precipitation. The rainfall came in the form of widely scattered local showers at long intervals, except over the northeastern counties, where the showers were quite frequent and the rainfall sufficint to keep all vegetation in fairly good condition. Over the southeastern, south and northwestern counties, the drought was severe, and all crops, except corn, suffered; early potatoes, garden truck, grass, pasturage, and the late small grains being damaged the most. Oats headed short and began ripening prematurely, thereby lowering the average condition of the crop materially. Pastures were bare at the close of the month, and the water supply was failing in many localities. Corn, however, made remarkably rapid growth, and at the end of the month much of it was more than waist high and practically all of it had been laid by.

The notable characteristics of July were the excessively high temperatures during the first 5 days; the unusually cool weather from the 11th to the 28th; the excessive amount of sunshine; and, over the larger part of the state, the continuance of the severe drought. From the 1st to the 5th maximum temperatures of 100° or higher, were recorded on one or more days at all but one station in the state, and at many station in the southwest counties the temperature was above 100° every day during that period. The highest temperature reported was 111° at Bloomfield on the 3d, and at Jefferson and Keosauqua on the 5th. This is the highest temperature recorded in the state since July, 1901. The drought continued over the larger part of the state, but copious showers occurred in the eastern counties on the 6th, which were followed by fairly well distributed showers during the remainder of the month, with heavy rains on the 28th. Over the western two-thirds of the state, the amounts of rainfall were too small and the intervals between the showers too great to be of much benefit. The excessive high temperatures early in the month and the continuance of the drought in the western and central counties did considerable damage to corn, and hot winds injured or destroyed the pollen, causing uneven fertilization. Pastures were bare and afforded no feed for stock, early potatoes were practically a failure, and the late varieties were seriously injured. All small streams were dry, and water for the stock scarce, and, as a result, many farmers were compelled to sell much of their live stock. The dry, sunshiny weather was favorable for securing the hay and small grain crops and for threshing. The hay crop was, however, light, but small grain, especially winter wheat, turned out better than was anticipated.

The drought continued during August in the southern and sonthwestern counties, but copious to heavy showers occurred at frequent intervals in the eastern and northeastern counties and the northwestern sections received considerable benefit from timely rains. Corn matured rapidly and a large portion of the crop was well dented at the close of the month, and much of it was beyond danger of a moderately heavy frost. The bulk of the threshing was completed, and, except in the northeastern counties, where showers had occurred frequently, the grain was secured in good condition. While the average temperature for the month was very nearly normal, light frost occurred on low ground, in the northern counties on the 28th and 29th, but no damage was done.

September gave abundance of precipitation in all sections of the state, the average amount of rainfall exceeding all previous records for that month. The drought was broken and before the close of the month grass was green and growing rapidly. The ground was soft and moist and much seeding had been done. Late potatoes that on August 31st were thought to be a failure gave promise of good yields. Practically all of the corn was ripe and beyond danger of frost. Thunderstorms were frequent and more than the usual amount of damage was done by lightning, In a few cases the thunderstorms were attended by severe wind squalls, and a typical tornado occurred in Madison County on the afternoon of the 6th.

October was, as a whole, cold and wet, yet the first killing frost did not occur until 10 or 12 days after the average date of past years. Killing frost occurred in the extreme northern counties on the 8th, and in all sections of the state on the 21st or 22d. The first snow of the season, of any consequence, fell on the 26th. Considerable corn was put in cribs in good condition, and the largest crop of apples ever harvested in this state was secured. Much planting and seeding of winter grains was done, and the early sown grain was up and showed a good stand. Pasturage was exceptionally good at the close of the month.

November was characterized by the coldest weather ever experienced in the state during the first half of the month. Following local thunderstorms and spring-like showers on the night of the 10th and morning of the 11th, a severe blizzard swept over the state on the afternoon and night of the 11th, which caused sub-zero temperatures in the northwestern counties on the morning of the 12th. Sleighing was good in the northeastern counties after the 27th. Corn husking was delayed in the southern sections by wet weather and soft ground in the fields, but probably 85 or 90 per cent of the crop had been harvested by the end of the month.

December was one of the pleasantest winter months ever experienced in Iowa. The first 15 days were exceptionally fine, with an abundance of bright sunshine and mild temperatures. The only storn of importance, during that period, being a general rain on the 9th and 10th.

CLIMATE AND CROP BULLETINS

Summaries of Weekly Bulletins Issued in the Season of 1911.

Bulletin No. 1.—For the week ending April 10.—After a mild and pleasant but dry winter the crop season of 1911 opens with nearly normal conditions, except that the subsoil is drier than usual; there being an average deficiency of 2.82 inches of precipitation since October 1, 1910. March was dry and warm, prior to the 26th, and much plowing and seeding of spring wheat was done between the 10th and 25th of that month. Since that time the weather has been cold with frequent rain and snow storms which have prevented field work. The first week in April was abnormally cold and stormy with heavy snow over the northern half of the state; many stations in the northern counties reporting three to eleven inches of snowfall and temperatures between 5 and 10 degrees on the 7th. Farm work is, however, as far advanced as usual at this time in the year, but is several weeks later than last year. Nearly all of the spring wheat and much of the oats have been sown, and some ground has been plowed preparatory to planting corn. Winter grains and grasses are reported generally as being in good condition, and the late rains have put the soil in fine tilth. All kinds of stock came through the winter in good shape and farmers have plenty of feed left on hand. All vegetation and especially fruit buds have as yet remained nearly dormant and prospects of a fruit crop are at present very promising. The acreage of spring wheat has been increased over that of last year, but the acreage of oats and other grains will probably be about the same. The week closes with indications of warmer weather.

Bulletin No. 2.—April 17.—The first half of the week was cloudy and stormy, with copious rains attended by thunder and lightning, and in many localities by high and damaging winds. The last four days were generally clear with cold nights; the mimimum temperature being below the freezing point over the northern half of the state on the mornings of the 14th and 15th. The cold wet weather retarded farm work, but the rain was very beneficial and has put the top soil in excellent condition for tilling. Considerable progress was, however, made during the last three days of the week in plowing and seeding. Practically all spring wheat and barley are in and the bulk of the oats will be seeded by the middle of the coming week. Grass is beginning to start nicely since the late rains, and winter wheat is in good condition. Fruit buds are generally dormant. Notwithstanding the fact that the season is somewhat backward, the general conditions are at present very promising.

Bulletin No. 3.—April 24.—The past week was dry and generally pleasant with cool nights, although the average temperature was slightly above the normal. Light, but fairly well-distributed showers occurred on the 17th and 18th, but clear weather prevailed generally during the rest of the week, with frost on the morning of the 22d. No damage was done, however, as vegetation was not far enough advanced to be injured. The conditions were unusually favorable for farm work and rapid progress was made in finishing seeding and preparing ground for corn. Nearly all of the small grain is in and that sown early is up and shows a good stand. Winter grains and grass are coming on nicely. Many early potatoes have been planted, and a start was made in planting corn in the southern counties. Fruit prospects are still very promising and more than the usual number of fruit growers are installing orchard heaters for use in case of necessity. The pig crop is disappointing in many localities, but foals and calves are up to the average and are doing well.

Bulletin No. 4.—May 1.—The fore part of the week was cool with frost, and in some localities, ice on three nights, but the latter half was warmer; the mean temperature being slightly above normal although the temperature on the morning of May 1st was near or below the freezing point in the northwestern half of the state. Light, but fairly well distributed showers occurred on the 26th and moderate to heavy rains fell over the southern sections on the night of the 28th and the 29th with more general rains on the night of the 30th which changed to or was mixed with snow over the northern counties on the morning of May 1st. The week, however, was favorable for field work and rapid progress was made in plowin for corn. A large acreage has been prepared and in many sections the plowing is nearly finished. Some corn has been planted and planting will be general during the coming week if favorable weather prevails. Grass is growing rapidly since the late showers and stock are being turned onto pasture. Small grains are showing up nicely and are in good condition. The early varieties of fruit are in full bloom in the southern, and cherry and plum trees are beginning to blossom in the central counties. The cool wave now approaching from the northwest will cause freezing temperatures in many sections of the state tonight and the fruit buds may be damaged.

Bulletin No. 5.—May 8.—Heavy showers on the night of April 30th and snow on May 1st, followed by cold weather with freezing temperature on the 2d and light to heavy frost on the 3d and 4th delayed corn planting for several days, but the latter half of the week was favorable for work and considerable planting was done. The rains during the fore part of the week were very beneficial and grass and small grains are now growing rapidly under the effect of the higher temperature during the closing days of the week. Plowing for corn is nearly finished and a large amount of corn will be planted during the coming week with the soil generally in excellent tilth. It is thought that very little, if any, damage was done to fruit by the frost and freezing temperature and the prospects for a bountiful crop are still very promising.

Bulletin No. 6.—May 15.—The weather during the past week was ideal for field work and the growth of vegetation. The first three days were excessively warm with the temperature above 90 degrees in many localities, but the latter part of the week was moderately cool and pleasant. The rainfall was light during the six working days, but copious to heavy showers occurred in many localities on Saturday night and Sunday, especially over the central, southern and eastern sections. Rapid progress was made in planting corn, and that work will be practically finished befor the 20th. Much of the early planted corn is up, but it is yet too early to determine what the stand will be, although the few reports received indicate that it will be good. Grass and small grains have improved during the week, and are generally in good condition, but need more rain to keep up normal growth, especially in eastern and northern counties where the rainfall has been light. Fruit trees of all kinds are now in full and profuse bloom in the northern part of the state and show no signs of injury by the frosts, early in the month.

Bulletin No. 7.—May 21. Copious rains over the larger part of the state on the 14th, followed by four days of abnormally warm weather, with light to heavy and fairly well distributed showers on the last three days of the week, have caused rapid growth of all vegetation. The average temperature was 10 to 15 degrees above the normal, and the rainfall, though generally deficient, was ample for present needs except over the northwestern counties where the rainfall has been light for several weeks. Corn planting is nearly finished and many of the early planted fields are being cultivated. The stand of corn is excellent, and replanting will not be necessary except on sod ground where cut and wire worms are very active, and have already caused considerable damage. Grass and small grains improved during the week, but owing to the deficiency of moisture the timothy hay crop will be light. Clover is, however, reported to be in good condition. Rye is heading and winter wheat is beginning to joint. Oats are generally in excellent condition, and potatoes, garden truck and fruit are doing well, although there is some complaint that cherries and plums are not setting well.

Bulletin No. 8.—May 28.—with the exception of high winds the past week was ideal for farm work and the growth of vegetation. The average temperature was 6 to 10 degrees above the normal, and while the rainfall was deficient light to copious showers were general during the first and last days of the week, and all crops made unprecedented growth under the effects of the high temperature and needed moisture. Temperatures in excess of 90 degres were general on Wednesday, Thursday and Friday. Much of the corn has been cultivated once and some of it twice. The stand is excellent except on sod ground where worms have done considerable damage and caused some replanting. The soil is in fine tilth, the fields are unusually clean and the plants are strong and of good color. Winter wheat is heading in southern counties and small grain, meadows and pastures are doing well generally, but in a few localities and especially in the southeastern counties these crops need more rain. The hay crop will, however, be below the average in all sections. Potatoes are growing rapidly notwithstanding the fact that bugs are numerous and are doing considerable damage. Fruit and gardens still give promise of bounteous yields.

Bulletin No. 9.—June 4.—Another ideal week has been added to the record of this unusually favorable season. The week began with moderate temperature and light to heavy and fairly well distributed showers, and closed with excessively high temperatures. Copious rains occurred on Thursday and Friday over the east central and northern ditricts. The average temperature being 4 to 6 degrees above the normal and the maximum temperatures equaled or exceeded 90 degrees on the last four days, over the larger part of the state. The rainfall was generally much below the normal although all sections received some moisture, and in many localities the showers were heavy. All crops, especially corn made rapid growth and are in good condition generally, except in southeastern counties where the rainfall has been light for several weeks. Small grains are, however, heading with shorter straw than usual and the hay crop will be light, although considerable improvement was noted during the week in localities where heavy showers have occurred.

Bulletin No. 10.—June 11.—The past seven days have been the hottest, and over the larger part of the state, the driest on record for the first week in June. With the exception of Wednesday, the weather was exceedingly hot, maximum temperatures in excess of 100 degrees being recorded at many stations on two days and above 90 degrees at all stations on four days. The rainfall was unusually light and over the southern and southwestern counties practically nil. Light to copious showers occurred, however, in the east-central and northeastern counties on one or two days, but the intense heat and high winds caused rapid evaporation and over the western and southwestern districts the effects of dry weather are noted in the pastures, meadows, gardens, potatoes, small fruits and some grain fields. Corn has, however, made rapid growth and except late corn in southeastern districts is looking well; and the fields are clean, most of them having been cultivated twice. The soil is in perfect physical condition and can stand another week of dry weather. While small grain is heading short, most of it is still in fairly good condition and promises a good crop if rain comes within a few days. The most damaging effects of dry and hot weather have been in pastures, potatoes, cherries and strawberries. Cherries ripened prematurely and the strawberry crop was cut short by drouth. On the whole the conditions are still promising, but rain is needed.

Bulletin No. 11.—June 18.—The past week was about all that could be desired as to temperature, the average for the state being slightly above normal. The rainfall was, however, unequally distributed, but all except the extreme northwestern and southeastern districts received some benefit from showers near the close of the week. In many localities in the central and northeastern counties the amount of rainfall was copious to heavy and ample for present needs, but over the larger part of the state the rainfall was light and in some places practically none. In many localities, and especially over the southern and northwestern counties, oats, hay, pastures and potatoes have already been damaged and will continue to deteriorate if the drouth continues. In other sections where the showers were heavy and in the northeastern counties where rains have been frequent, all crops are in good condition. Corn is still making rapid progress except in the southeastern counties where the drouth has been the most severe and of longer duration. Most of the early planting has been cultivated the third time and all fields are clean, the soil is in good tilth, and the plants much above the average height. Fall wheat and rye harvest is in progress in the southern counties and much hay was secured during the week, but the yeilds will be considerably below normal. Hot, dry weather has also been injurious to fruits; many apples are falling and in sections where showers have not occurred berries are drying up. Rain is needed badly, not only for crops, but to replenish the water supply which is getting short.

Bulletin No. 12.—June 25.—The weather during the past week was exceedingly hot; the average daily excess of temperature being about 7 degrees, and the rainfall was nil until the last two days when light to copious local showers occurred over the larger part of the state. In many localities the amount of rainfall was, however, too small to be of much benefit except to freshen up vegetation and purify the atmosphere. Corn is holding its own remarkably well and has not as yet suffered any material injury, though nearing the danger time in a few localities. Much of it has been laid by in good condition, and in a few counties some of the early planting is beginning to tassel. Reports vary as to the condition of small grain, but most of the correspondents agree that oats and spring wheat have been seriously injured and in some localities, in the central, western and southern counties the prospects of an oats crop have been reduced from 20 to 40 per cent. In all sections where the showers on Sunday were even moderately heavy, all late grains will be materially benefited. Most of the winter wheat has been cut and gives promise of a fair yield of good quality. Hay making progressed rapidly and the dry, hot weather was favorable for securing the crop in excellent condition, although the output is much below the average. Pastures, garden truck and early potatoes have received the most injury from the drouth. Early potatoes are practically a failure and the late potatoes need rain at once. Apples have been damaged to some extent, but if rains come within the next week there will be a fair crop.

Bulletin No. 13.—July 2.—Following the showers on the evening of June 25th and the morning of the 26th, the weather was much cooler until the 28th, but the last four days of the week were intensely hot; the maximum temperature at many stations exceeding 100 degrees on three days. The drought continues with increased severtiy over the larger part of the state notwithstanding the fact that the showers of a week ago were more extensive and in many places the rainfall much heavier than was indicated in the last bulletin. Some stations in the northwestern counties reported two to over 3.50 inches of rainfall, while in the southern and southwestern counties, there was no rain during the week and only light showers in the eastern sections. Except in the northeastern counties where showers were frequent prior to last week and in localities in the northwestern counties where the rainfall was the heaviest on the 25th and 26th, the conditions are becoming serious. Pastures are dry and brown, garden truck and early potatoes are nearly a failure and the water supply is failing in many localities. Practically all of the winter wheat and rye is in shock, and gives promise of fair to good yields of excellent quality. Much of the early oats, spring wheat and barley have also been cut and most of the remainder will be harvested during the coming week. The yield of oats has been seriously reduced by the dry, hot weather, and reports indicate that the quality of most of the small grain will be only fair. Over the larger part of the state, corn is still holding its own, but in many localities is beginning to show the effects of the drought and in a few sections the crop has already been damaged. Much of the early planted corn is beginning to tassel and most of it must have rain within the next week or ten days to make an average crop. Considerable damage was done by rain, wind and hail storms in portions of Pocahontas and adjacent counties on June 25th. Favorable weather has prevailed for securing the light hay crops in good condition and this work has been vigorously pushed. The drought and intense heat are also injurious to apple and other late tree fruits.

Bulletin No. 14.—July 9.—Excessively high temperature and bright sunshine prevailed during the first half of the week, the heated period culminating in maximum temperatures considerably above 100 degrees; the highest temperature reported being 111 degrees in the southeastern counties. While showers occurred over the larger part of the state on the night of the 5th, the drouth remains practically unbroken. The showers afforded temporary relief in narrow belts and spots, covering probably three-fourths of the state, and a few localities reported rainfall sufficient for present needs, but over the bulk of the state the amount was too light to give material benefit. Most of the corn is still holding its own remarkably well, but some of the earliest planted, especially in the southern counties, has been seriously injured and if rain does not come soon the crop in those sections, will be light. Haying and small grain harvest have progressed rapidly under favorable conditions. Threshing has begun and early reports indicate a good quality and a fairly good yield of winter wheat. The yeild of oats varies from fifteen to thirty-five bushels. The hay crop will average between one-half and three-fourths ton per acre. Pastures afford but little feed, and in many localities hay is being fed to stock. Potatoes and garden truck show serious damage. Wells are failing and water for stock is getting scarce.

Bulletin No. 15.—July 16.—With cooler weather and light to copious showers in nearly all parts of the state on one or more days, corn is still holding its own. Scattered showers occurred on the 9th, 10th, 12th and 14th, but the amounts of rainfall were generally too small to be of material or lasting benefit, and not sufficient to enable the crop to withstand the effects of another hot wave without serious injury. Reports indicate that early corn in the tasseling and earing stage has already suffered considerable damage especially in southern and central districts.

and the crop as a whole is at a very critical stage. Grasshoppers are numerous and are injuring uncut grain, corn and clover in many localities. The bulk of the small grain harvest has been completed in the southern and central sections, and will be practically finished in the northern counties during the coming week. Shock thrashing has begun. Pastures, gardens and potatoes continue to deteriorate. Early potatoes are a failure and the late varieties are drying up.

Bulletin No. 16.—July 23.—The average temperature for the week was below normal for the first time since the first week in May; the average daily deficiency for the past week being about 6 degrees. A few, generally light and scattered showers occurred on Tuesday, Wednesday and Friday, but over the larger part of the state the rainfall was practically nil until Saturday night or Sunday morning when fairly copious and well-distributed showers occurred. Cool nights, partially cloudy weather and absence of hot winds have enabled corn to hold its own remarkably well considering the small amount of moisture in the soil. Over the southern and parts of the central and northern districts corn has suffered some damage, but the crop as a whole is doing as well, if not better, than could be expected under the circumstances, and with favorable weather in the future will make a fair yield. The small grain harvest is practically completed and thrashing is progressing rapidly under favorable weather conditions. Reports show a wide range in the yield of grain. Oats range from ten to fifty bushels per acre; winter wheat eight to thirty; spring wheat eight to sixteen; barley, ten to twenty-five and timothy seed from two to four bushels. The drought has seriously affected fruit. Apples, grapes and plums are small and apples are falling badly. The worst effect of the drought, however, is on pastures and the water supply. Pastures are bare and much stock is being fed green corn or hay, and stock water is getting scarce.

Bulletin No. 17.—July 30.—Heavy showers occurred over the eastern third of the state on the 28th; the amounts of rainfall ranging from one inch to over three inches. Little or no rain has fallen over the central and western districts since the 23d and in these sections, the drought continues with increased severity. Cool weather continued until the 27th, but the last three days were hot, with moderately high winds. The condition of corn improved considerably over the eastern sections, but over the central and western districts there has been a decline. There are many barren stalks and the ears that have formed are generally small and unevenly fertilized. For the state as a whole, there has been a loss of at least 30 per cent in condition since July 1st, and in many localities in the southern districts the loss ranges from 40 to 60 per cent. The crop is in a very critical condition and will continue to deteriorate until rain comes. But if good soaking and general rains come soon there is still time to make a fair crop, as the stand is nearly perfect and the acreage is considerably larger than it was last year. Thrashing progressed rapidly and is now about 60 per cent completed and preliminary reports indicate average yields as follows: Winter wheat, twenty-one bushels per acre; spring wheat, fifteen; oats, twenty-four; barley, twenty-three; rye, eighteen. Scarcity of water and the lack of pasturage is causing farmers in many localities to sell their stock. The condition of pastures, potatoes, fruit and gardens continues to decline except in eastern counties where heavy showers occurred on the 28th. Much depends on the weather during the coming week.

Bulletin No. 18.—August 6.—With very nearly normal temperature and frequent showers over the larger part of the state, late crops generally show an improvement over last week. The rainfall was copious to heavy over the eastern and extreme southwestern counties, and in those sections the improvement, especially in late corn and potatoes, is well marked, while in other districts where the showers were light to moderate the improvement was slight or the crops barely held their own. The rains, however, came too late over the western two-thirds of the state to be of much benefit to early corn, which has been badly damaged by the drought and will not produce more than half of a crop. Except in the eastern counties late corn has been in a critical condition, but with a continuance of showers or a good soaking rain will make a fair yield. Pastures and late potatoes have improved in many sections, but much more rain is needed. Thrashing from shock has been completed in many localities and a start has been made with fall plowing in sections where there has been sufficient rain to soften the ground. The week closed with heavy rains in the central counties.

Bulletin No. 19.—August 13.—Both the temperature and rainfall were above normal during the past week; the average daily excess of temperature being about 3 degrees, and the rainfall ranged from nothing in some of the southwestern counties to 5.54 inches in Dubuque county; the average for the state being 1.50 inches. Showers occurred on one or more days in nearly all sections, and were heavy over the central and northern districts, and excessive and damaging in some of the northeastern counties, where they were, in many localities, accompanied by wind squalls, thunder and lightning and heavy hail. The temperature exceeded 100 degrees at many stations in the southern section on the 10th. The drought has been effectually broken over three-fourths of the state and the general conditions have been decidedly more favorable for all unharvested crops, pasturage and aftermath in meadows. The rains will check further deterioration of vegetation and will be of material benefit in developing the late corn, except in some localities in the southwestern counties where the drought still continues. The rains, however, came too late to be of much benefit to early corn which is, in many sections past recovery and will, at the best make a light crop. Late potatoes show considerable improvement and pastures are becoming green again. The bulk of shock thrashing has been completed except in eastern and northeastern counties where the work was suspended on account of wet weather. Much plowing was done during the week and the indications are now favorable for a large increase in the acreage of winter wheat.

Bulletin No. 20.—August 20.—The past week was hot and generally dry; the average daily excess of temperature being about 4 degrees, and the rainfall was much below the normal except over the northeastern counties and in some localities in Adair, Adams, Cass, Clarke, Ringgold and Union counties where copious to heavy showers occurred. The maximum temperatures on the 16th ranged from 98 to 105 degrees over the southern district, but for the state as a whole, the conditions were favorable for all late crops. Except in some localities in southern and southwestern counties, corn, late potatoes, grass and apples made considerable improvement under the effect of light local showers during the week and the copious to heavy rains of the preceding week. Much of the early planted corn is beginning to dent and the late corn is in the roasting ear stage, and most of it is doing well. Even in the dry districts, occasional light showers have checked the deterioration of corn. Pastures and late potatoes have made a decided improvement over the northern and southern districts and now afford considerable feed. Thrashing has been resumed in the northeastern counties and much fall plowing has been done.

Bulletin No. 21.—August 27.—The week was cool and unusually dry; only a few light and widely scattered showers occurred. In many lolocalities over the western and southern counties no rain fell during the week, and in those sections the drought is still serious. In the northeastern district the rainfall was more copious, and practically all crops are in excellent condition, but considerable small grain in shock has been damaged by the continuous wet weather during the past 5 weeks. In other sections of the state corn on light or rolling ground is dying very rapidly and some of it is already being cut. Reports made on August 25th by the correspondents of this service show that the average condition of corn was 75 per cent, or a gain of 6 points since August 1st. With normal weather conditions about 65 per cent of the crop will be safe from frost on September 15th; 80 per cent on September 25th; 95 per cent on September 30th, and practically all of it by October 10th. The average condition of late potatoes on August 25th was 54 per cent, or an improvement of 20 points since August 1st. In many localities in western and southern counties farmers are feeding their stock green corn on account of no pasturage. Much more than the usual amount of corn will be cut and saved as a substitute for hay. Fall plowing is progressing in sections where sufficient rain has fallen to soften the ground. In other sections that work has been suspended. Apples, plums, peaches and grape crops are larger than usual. A summary of the late reports from threshers show the average yield of small grain to be as follows: Winter wheat, 20 bushels per acre; spring wheat, 14; oats, 25; barley, 22; rye, 17, and timothy seed, 3 bushels per acre.

Bulletin No. 22.—September 3.—Another week with practically no rain has been added to the record of this abnormal season. Only a few light and widely scattered showers occurred, the amounts of rainfall being generally less than a tenth of an inch, and in many localities did not exceed a trace while in other places there was no rain. The first part of the week was very cool, but the latter half was unusually warm. A trace of frost was observed on low ground in many localities in the northern half of the state on August 28th and 29th, but no damage was done. Last year the first light frost occurred on August 26th and in 1909, an August 29th. On Thursday and Friday the maximum temperatures were generally above 90 degrees, and exceeded 100 degrees at a few stations in the southern part of the state on September 1st. The dry, hot weather is drying out the corn remarkably fast. Much of the early planted is now safe from the damaging effect of a heavy frost, and with another week of such weather as has prevailed during the past four days, over 75 per cent of the crop will be safe from frost by September 15th. Silos are now being filled, and a large portion of the early corn is already in shock. The hay crop being so short, and the prospects for good fall pasturage so poor that much more than the usual amount of corn will be cut and saved for fodder. The anticipated acreage of winter wheat will be greatly reduced if sufficient rain does not come soon to permit fall plowing to be resumed in the southern and western counties, where the drouth is the most severe and, the soil too dry to plow. Thrashing is nearing completion in all sections. A large crop of apples, plums and grapes is being harvested and the fruit is generally of good quality.

Bulletin No. 23.—September 10.—The average temperature was very nearly normal, it being slightly above in the southern and below in the northern districts. The rainfall was deficient in most of the western and northwestern counties, but was heavy and excessive in the southeastern counties. Many stations in the southern portion of the Des Moines river valley reported amount in excess of three inches, while in counties adjacent thereto the amounts were generally more than an inch. A marked improvement has been noted in the condition of pastures and late potatoes, and fall plowing and seeding has been resumed with the soil in fine tilth except in the southwestern districts where the rainfall was very light. Although the weather was mostly cloudy corn has made rapid advancement toward maturity, and fully 70 per cent of the crop would not be injured by a moderately heavy frost. The work of cutting and shocking corn, and filling silos is progressing rapidly and more fodder will be secured than ever before in the history of the state. Many new silos are being erected. Considerable damage was done to corn, fruit and buildings by hail, high winds and lightning during the heavy shower on the afternoon of the 6th in the southeastern counties.

Bulletin No. 24.—September 17.—The conditions during the past week were generally favorable for pastures, plowing, fall seeding, maturing corn and all kinds of farm work. The temperature was considerably above, and the rainfall generally below the normal, except over the northwestern, east central and southeastern counties where there was an excess of moisture. All parts of the state, except the southwestern district, have, however, received copious amounts of rainfall during the past ten days and as a result pasturage has made satisfactory advancement and late potatoes have improved considerably. The soil is generally in good condition and fall plowing and seeding have progressed rapidly. The work of cutting and shocking corn for fodder and filling silos is nearly completed, the amount reported cut, varying from 30 to 90 per cent. The bulk of the corn is now beyond danger of injury by an ordinary frost and practically all of it will be safe with another week of warm weather. Some seed corn has been gathered. A large crop of apples, plums and grapes is being harvested.

IOWA CROP REPORT JUNE 1, 1911.

Acreage of Farm Crops, Estimated Condition of Staple Crops, Fruit and Live Stock.

Reports received June 1st from county and township correspondents of the Iowa Weather and Crop Service, show the following results as to the number of acres, and average condition of staple farm crops; also the condition of fruit and live stock.

CORN.—The estimated number of acres of corn planted appears to be 8,534,500 or an increase of 163,000 acres as compared with the area reported by the township assessors, for 1910. The average condition of corn on June 1st was placed at 105 per cent for the State, as against 97 per cent on June 1, 1910.

OATS.—The area of oats is estimated to be 4,660,500 acres, which is 99 per cent of the acreage in 1910. The average condition was 100 per cent. Last year the condition on June 1st was 94 per cent.

WHEAT.—The area of winter wheat is placed at 200,800 acres, and spring wheat 358,500, making a total wheat acreage of 559,300 acres, or an increase of 2 per cent over last year. The estimated condition was 100 per cent as compared with 88 per cent for winter wheat and 96 per cent for spring wheat on June 1, 1910.

BARLEY.—Acreage sown, 313,147 acres; condition 100 per cent against 93 per cent last year.

RYE.—Acreage of rye sown, 28,710 acres. Condition of the crop 97 per cent or 7 points better than on June 1, 1910.

HAY.—The acreage of tame and wild hay is 4,214,540 acres, and the condition of the hay crop is 88 per cent as compared with 79 per cent last year.

ALFALFA.—Area 26,067 acres, which is an increase of 8 per cent over last year. The condition on June 1st was 100 per cent.

POTATOES.—The acreage of the potato crop is estimated to be 132,865 acres which is a slight increase of the area planted in 1910. Condition of crop 101.

FLAX.—The acreage of flax is 20,200 or an increase of 1 per cent over last year. The condition of the crop, 99 per cent or 9 per cent better than last year.

PASTURES.—The acreage is about 99 per cent and the condition is 99 per cent. Last year the condition was 81 per cent.

CONDITION OF FRUIT.—Secretary Wesley Greene, of the Iowa Horticultural Society, reports condition of the fruit crops, on June 1st as follows: Apples 70 per cent; pears 40; American plums 68; domestic plums 66; Japanese plums 48; cherries 84; peaches 10; grapes 81; red raspberries 71; black raspberries 81; blackberries 87; currants 75; gooseberries 80; strawberries 55 per cent of a full crop. The average condition of the crops in May was 78 per cent. This month it is 65 per cent, a drop of 13 points caused by the high temperature and drought of the last decade. Strawberries, early cherries and garden vegetables have suffered most from the drought.

CONDITION OF LIVE STOCK.—Cattle, hogs and horses 100 per cent; sheep 99; spring pigs 97; foals 93 per cent.

IOWA CROP REPORT, JULY 1, 1911.

The following is a summary of reports from crop correspondents showing the estimated condition of staple crops, July 1, 1911, as compared with the average condition on that date in past years: Corn, 102 per cent; oats, 72, winter wheat, 88; spring wheat, 80; rye, 89; barley, 79; flax, 84; hay, 57; pastures, 60; potatoes, 53; apples, 85; plums, 78; grapes, 87. On July 1, 1910, the conditions were as follows: Corn, 89 per cent; oats, 92; winter wheat, 87; spring wheat, 92; rye, 92; barley, 90; flax, 85; hay, 68; pastures, 70; potatoes, 86; apples, 6; plums, 4; grapes, 30.

IOWA CROP REPORT, AUGUST 1, 1911.

Following is a summary of reports from crop correspondents of the service August 1st. The condition of corn is unusually variable, sections of the state as shown by estimates ranging from 25 to 105 per cent, and the final output of this crop depends upon future weather conditions. Estimates of conditions are as follows: Corn, 69 per cent; potatoes, 34; pastures, 38; apples, 78; grapes, 74. On August 1, 1910, corn was rated at 90.5 per cent, and on July 1, 1911, at 102 per cent. The average condition on August 1st for the past ten years is 85 per cent. Thrashing returns and estimates show the following average yield of harvested crops: Winter wheat, 21; spring wheat, 14; oats, 24; barley, 22; rye, 17 bushels per acre. These figures are subject to change upon receipt of final returns, but if they are sustained this state will have over 9,000,000 bushels of wheat of good quality, and about 110,000,000 bushels of oats of fair quality.

IOWA CROP REPORT, AUGUST 25, 1911.

Reports made on August 25th, by correspondents of the Iowa Weather & Crop Service, show that the average condition of corn was 75 per cent as compared with the average on that date in past years, or a gain of 6 points since August 1st. It was estimated that with normal conditions, about 65 per cent of the crop would be safe from frost on September 15th; 80 per cent on September 25th; 95 per cent on September 30th, and practically all of it on October 10th.

The average condition of late potatoes was 54 per cent, or an improvement of 20 points since August 1st.

A summary from the reports of threshers shows the average yield of small grain to be as follows: Winter wheat, 20 bushels per acre; spring wheat, 14; oats, 25; barley, 22; rye, 17, and timothy seed 3 bushels per acre. The average yield of grain is subject to change after the receipt of final reports at the end of the season.

Final Report for the State—Total Yield of Soil Products—Value at Farm Price December 1, 1911.

Following is a summary of reports from crop correspondents of the Iowa Weather & Crop Service, and Threshermen, showing the average yield per acre and total yields of staple soil products, and the average price at the farms or nearest stations, December 1, 1911. The value gained by feeding farm crops for production of live stock, poultry, and dairy products, is not taken into consideration in this report.

The conditions were never better for seeding, planting and cultivating than obtained during the early part of the season. Corn was laid by much earlier than usual, and the stand was practically perfect. The outlook, except for hay, was excellent on the 1st of June, but the excessively high temperatures during the first five days of July, and the drought that prevailed over the larger part of the state during June and July, and in the western and southern counties during the entire summer, cut down the prospective yields materially; and yet with these adverse conditions, the total output of the state, and especially the average yield of corn, is much larger than in the dry years of 1894 and 1901.

Corn.—The estimated acreage of the corn crop is 8,534,500 acres or 163,000 acres more than was planted last year, as shown by the report of the township assessors. The average yield per acre for the state this year was 32.9 bushels, making a total yield of 281,366,600 bushels. The average farm price on December 1st was 54 cent per bushel, making the aggregate value, $151,937,964. Last year the estimated yield was 39.7 bushels per acre, aggregate yield 354,506,500 bushels; average price was 36 cents, total value, $127,622,340. While the rains in August and September increased the yield, the rains in October caused much of the corn in shock to mold, and the crop, as a whole, is not in as good condition as it was on December 1, 1910. There was much more than the usual amount of cloudy, damp weather during September, October and November, which prevented the crop from drying out, and corn picked for seed and hung in cribs and sheds was badly damaged by the severe freezing weather on November 11-12th.

Oats.—The area harvested was 4,660,500 acres; average yield, 25.7 bushels per acre; total yield, 120,208,300; aggregate value, at 41 cents per bushel, $59,285,403.

Spring Wheat.—Area harvested, 358,510 acres; average yield, 13.1 bushels per acre; total yield, 4,674,500; price per bushel, 86 cents; total value, $4,020,070.

Winter Wheat.—Area harvested, 200,762 acres; average yield per acre 19.7 bushels; total yield, 3,959,000; average price, 93 cents per bushel; total value, $3,681,870.

Barley.—Average per acre, 22.9 bushels; total yield, 7,197,090; farm price, 90 cents per bushel; total value $6,477,381.

Rye.—Average yield 16.8 bushels per acre; total crop, 486,130 bushels; farm price, 79 cents per bushel; total value, $384,043.

Flax Seed—Average per acre, 8.5 bushels; total product, 173,710 bushels; total value at $2.00 per bushel, $347,420.

Potatoes.—Average yield per acre, 71 bushels; total yield, 9,386,390 bushels; average price, 71 cents; total value, $8,353,887.

Hay (Tame).—Average yield, 0.8 ton; total yield, 3,246,200 tons; average price $13.44; total value $443,628,928.

Hay (Wild).—Average yield, 0.9 ton; total yield, 683,385 tons; average price, $10.28; total value $7,024,188.

TABULATED CROP SUMMARY.

Corn	281,366,600 Bu.	$ 151,937,964
Oats	120,208,300 Bu.	59,285,403
Spring wheat	4,674,500 Bu.	4,020,070
Winter wheat	3,959,000 Bu.	3,681,870
Barley	7,197,090 Bu.	6,477,381
Rye	486,130 Bu.	384,043
Flax	173,710 Bu.	347,420
Potatoes	9,386,390 Bu.	8,353,887
Hay (tame)	3,246,200 Tons	43,628,928
Hay (wild)	683,385 Tons	7,024,188
Pasturage and grazing	Estimated	80,000,000
Ensilage	Estimated	3,250,000
Timothy and clover seed	Estimated	800,000
Alfalfa and millet	Estimated	600,000
Sweet corn	Estimated	950,000
Popcorn	Estimated	250,000
Fruit crops	Estimated	9,000,000
Garden truck	Estimated	1,000,000
Miscellaneous crops	Estimated	8,000,000
Total value		$ 388,991,154

The estimated value of soil products for 1910 was $ 362,470,791

IOWA CROPS, 1911—NUMBER OF ACRES BY COUNTIES

COUNTIES	Corn Acres	Oats Acres	Winter Wheat Acres	Spring Wheat Acres	Barley Acres	Rye Acres	Tame Hay Acres	Wild Hay Acres	Alfalfa Acres	Potatoes Acres	Flax Acres	Pastures Acres
Adair	96,000	33,000	120	3,300	2,100	110	47,000	3,400	25	1,130	----------	114,900
Adams	70,500	23,300	1,700	1,240	1,040	40	32,000	1,650	40	515	----------	96,100
Allamakee	37,000	34,800	540	2,600	12,500	450	45,300	1,000	----------	1,050	50	145,600
Appanoose	38,400	14,000	2,100	200	20	120	42,600	770	----------	340	----------	85,000
Audubon	84,000	34,500	110	4,700	4,700	----------	32,000	2,600	25	880	----------	72,000
Benton	123,000	77,900	130	1,400	6,000	470	47,000	4,000	----------	1,500	----------	100,000
Black Hawk	89,500	54,200	500	350	2,800	1,950	34,600	10,000	----------	1,970	40	107,000
Boone	99,500	66,500	200	1,300	220	120	26,100	15,500	20	1,220	----------	53,000
Bremer	55,200	51,700	30	800	3,000	600	19,200	20,000	----------	1,400	----------	64,000
Buchanan	82,000	49,000	470	950	2,400	580	41,500	12,200	----------	1,020	10	86,000
Buena Vista	100,000	74,600	60	500	650	25	27,000	16,000	65	1,730	60	63,000
Butler	97,500	70,000	100	420	1,250	1,680	29,000	10,600	----------	1,750	----------	89,600
Calhoun	116,000	91,000	50	270	650	200	19,000	15,400	----------	1,120	230	56,300
Carroll	111,500	60,700	40	6,300	3,000	----------	32,500	11,300	20	2,200	----------	68,000
Cass	105,800	35,500	2,800	10,600	2,000	40	42,900	2,000	50	1,500	----------	10,500
Cedar	97,000	34,300	3,700	2,350	8,500	400	46,000	250	15	1,100	----------	82,000
Cerro Gordo	92,000	66,200	220	800	1,920	125	29,000	11,300	----------	1,400	330	63,000
Cherokee	111,000	75,200	50	1,000	2,500	----------	33,800	10,800	185	1,740	30	78,000
Chickasaw	61,000	58,500	50	2,400	3,900	130	30,200	12,500	----------	1,100	800	83,800
Clarke	47,000	17,400	620	120	230	20	31,800	240	----------	350	----------	84,000
Clay	83,000	69,800	50	900	730	40	30,000	22,000	----------	1,000	430	75,300
Clayton	69,000	57,700	720	1,550	14,000	890	56,000	1,700	155	1,890	5	164,000
Clinton	110,500	44,400	3,000	2,700	5,600	800	63,800	3,000	15	1,100	----------	150,000
Crawford	128,000	61,000	970	14,500	5,300	----------	46,000	5,400	250	2,100	----------	116,800
Dallas	113,000	49,000	1,500	2,070	430	170	29,000	5,900	70	830	----------	87,700
Davis	50,100	20,000	4,400	120	12	160	46,000	80	5	540	----------	164,000
Decatur	64,500	23,000	3,200	60	20	150	44,500	325	10	360	90	107,000
Delaware	77,000	42,900	90	470	10,400	1,100	41,500	7,000	----------	1,100	----------	111,000
Des Moines	60,600	24,200	8,700	290	700	270	21,500	190	----------	1,100	----------	76,200
Dickinson	63,000	44,000	80	2,300	1,700	40	18,600	16,600	10	870	500	52,000
Dubuque	62,000	49,000	260	1,020	4,100	460	55,000	800	10	1,900	----------	128,400
Emmet	42,800	38,700	----------	1,200	1,200	50	22,600	12,000	----------	740	800	46,400
Fayette	85,000	66,000	240	1,350	8,000	500	55,000	12,000	15	1,570	----------	123,000
Floyd	72,400	69,200	150	1,200	1,700	480	32,000	5,200	10	1,400	330	61,500
Franklin	89,000	71,000	140	1,000	1,440	130	29,500	16,600	25	1,650	170	79,600
Fremont	112,000	13,600	4,900	3,900	120	170	20,500	3,600	2,050	760	----------	66,000
Greene	121,000	61,000	12	540	640	20	28,300	12,400	20	960	25	74,500
Grundy	93,000	70,300	280	690	3,100	30	29,700	7,430	5	7,100	----------	73,000
Guthrie	91,000	42,300	550	2,700	1,100	20	38,600	3,600	5	700	----------	109,400

Hamilton	107,000	74,000	920	1,200	220	40	28,000	16,500	35	900	85	74,500
Hancock	86,000	66,500	90	4,000	2,900	200	27,500	19,100	10	1,100	460	69,400
Hardin	94,000	69,500	600	2,000	800	30	29,600	9,700	10	3,300	----------	77,300
Harrison	131,000	22,800	6,900	23,000	1,450	80	20,300	9,500	4,800	1,380	----------	85,000
Henry	67,500	29,000	3,100	170	90	290	28,300	----------	30	480	----------	79,000
Howard	41,300	45,400	110	1,900	8,200	50	37,600	8,800	----------	800	2,600	61,100
Humboldt	70,500	54,300	110	3,100	390	10	22,500	14,000	30	790	460	51,000
Ida	89,000	48,500	40	2,390	7,500	10	29,200	2,500	75	1,100	30	61,400
Iowa	90,000	38,500	620	2,640	900	290	46,000	950	15	1,400	----------	110,000
Jackson	60,000	28,800	740	1,720	3,470	650	59,400	880	10	1,000	----------	138,500
Jasper	128,500	52,700	2,200	7,900	670	170	49,600	1,460	25	1,220	----------	139,500
Jefferson	57,700	23,700	5,100	830	390	170	35,000	5	10	560	----------	89,000
Johnson	81,500	40,700	3,000	2,400	1,400	830	48,300	670	----------	1,280	----------	100,100
Jones	76,000	32,000	720	630	6,200	540	52,000	310	80	700	----------	113,500
Keokuk	88,500	31,200	2,140	3,680	1,480	340	46,500	170	15	840	----------	109,000
Kossuth	125,000	110,000	60	4,600	2,300	10	39,700	50,000	10	1,750	1,400	115,000
Lee	48,000	26,000	12,500	70	130	1,200	33,300	120	20	1,030	----------	96,000
Linn	95,000	50,600	400	2,200	1,740	840	50,000	3,380	10	1,660	----------	122,000
Louisa	59,800	19,300	12,000	1,300	260	1,380	18,300	375	35	440	----------	59,000
Lucas	48,000	18,300	2,300	770	----------	85	39,000	165	270	270	----------	90,000
Lyon	100,000	89,500	100	1,520	15,000	30	21,200	10,560	40	2,000	135	60,000
Madison	81,500	22,700	1,200	1,900	1,840	50	38,000	1,510	770	770	----------	101,000
Mahaska	69,000	24,400	1,500	2,900	1,000	170	28,000	240	10	560	----------	75,600
Marion	93,000	25,500	4,530	7,000	3,200	1,370	36,100	760	240	2,600	80	117,200
Marshall	107,500	62,000	2,800	2,430	770	120	38,000	1,100	----------	2,400	----------	92,000
Mills	76,800	17,200	2,500	4,900	530	50	18,500	3,000	2,550	580	----------	57,800
Mitchell	56,000	76,600	60	2,400	4,450	20	29,300	3,050	----------	1,820	2,500	60,000
Monona	125,800	21,000	16,200	16,000	2,600	90	14,200	14,400	3,200	1,200	15	85,000
Monroe	31,400	9,100	2,700	3,100	70	50	35,100	----------	----------	290	----------	103,800
Montgomery	86,700	16,200	6,200	10,700	690	50	29,460	930	420	830	----------	72,800
Muscatine	66,500	20,000	6,500	1,900	4,500	2,800	28,600	1,300	15	2,500	----------	77,000
O'Brien	91,000	73,100	30	1,100	11,200	5	33,200	8,600	----------	1,850	350	72,100
Osceola	58,000	62,300	10	320	5,500	10	19,000	9,500	----------	1,170	1,100	37,500
Page	92,500	20,000	7,100	6,250	730	160	34,000	1,200	80	640	----------	87,500
Palo Alto	69,000	61,000	85	730	600	70	18,000	32,000	----------	880	650	64,500
Plymouth	151,500	95,000	1,600	27,000	8,200	40	31,000	26,800	1,200	2,150	60	94,000
Pocahontas	98,500	80,000	100	760	320	40	18,500	24,300	15	1,200	700	65,500
Polk	103,700	37,500	4,400	7,700	300	120	38,000	3,100	100	2,200	----------	80,000
Pottawattamie	179,000	46,000	3,700	18,000	3,700	75	41,000	10,200	5,000	2,670	----------	125,000
Poweshiek	94,000	43,700	440	2,640	1,080	80	41,000	220	----------	1,100	----------	95,000
Ringgold	69,000	26,000	1,420	110	50	40	51,000	420	15	330	----------	115,500
Sac	110,000	69,600	70	900	3,920	----------	31,000	11,000	100	1,350	15	76,000
Scott	70,800	21,500	9,000	4,700	16,000	1,760	31,000	2,700	50	7,500	----------	76,900
Shelby	117,800	42,500	450	11,500	9,000	45	37,700	5,900	190	1,410	----------	86,700
Sioux	139,000	86,000	400	13,800	17,500	10	29,700	18,900	350	2,200	60	83,000
Story	117,500	63,000	1,200	1,350	200	80	33,600	8,500	60	750	10	72,500
Tama	127,000	61,500	360	5,620	5,000	100	49,500	2,400	10	2,770	15	123,600
Taylor	75,000	21,000	2,300	570	750	40	41,700	550	30	580	----------	102,400

IOWA CROPS, 1911- NUMBER OF ACRES BY COUNTIES—CONTINUED

COUNTIES	Corn	Oats	Winter Wheat	Spring Wheat	Barley	Rye	Tame Hay	Wild Hay	Alfalfa	Potatoes	Flax	Pastures
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Union	62,000	22,000	450	290	380	30	35,000	950	5	780	----------	89,000
Van Buren	48,000	19,700	6,800	100	160	160	41,000	25	85	630	----------	122,000
Wapello	53,000	19,700	4,900	480	380	280	32,000	25	----------	980	----------	74,500
Warren	79,000	21,000	5,250	3,100	770	250	41,300	740	20	930	----------	117,500
Washington	88,000	42,700	3,050	1,700	500	100	40,000	----------	10	210	----------	95,600
Wayne	63,000	28,800	1,100	110	15	60	51,500	100	----------	200	----------	102,500
Webster	118,500	104,000	80	3,670	330	13	26,600	25,500	12	2,100	220	92,100
Winnebago	47,000	32,000	15	13,000	3,300	82	20,700	21,000	----------	980	740	57,000
Winneshiek	63,800	60,700	170	8,100	17,200	370	55,500	4,750	----------	1,130	1,700	132,000
Woodbury	162,500	59,200	5,400	9,200	5,000	50	32,000	13,000	2,890	2,150	20	97,500
Worth	51,000	48,000	15	12,000	3,550	60	21,200	19,200	10	700	2,400	56,200
Wright	90,000	75,600	125	2,300	1,500	25	32,000	14,000	----------	1,060	500	75,000
Sums	8,534,500	4,660,500	200,762	358,510	313,147	28,710	3,472,800	741,680	26,067	132,865	20,205	8,779,300

Statistics by counties showing acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, section 1, Acts of the Thirty-third General Assembly, will be found in part 3 of this year book.

FINAL CROP REPORT, 1911

AVERAGE YIELD PER ACRE AND TOTAL PRODUCT BY COUNTIES

Counties	Corn		Oats		Spring Wheat		Winter Wheat		Barley		Rye		Flax Seed		Potatoes		Hay—Tame		Hay—Wild	
	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Tons per acre	Total Tons	Tons per acre	Total Tons
Adair	25	2,400,000	27	891,000	14	46,000	24	2,900	21	44,100	15	1,650	----	----------	46	45,200	1.0	47,000	1.4	4,800
Adams	26	1,833,000	24	559,000	17	21,100	25	42,500	21	21,800	18	700	----	----------	15	7,800	0.9	28,800	0.8	1,300
Allamakee	37	1,369,000	29	1,009,000	15	39,000	18	9,700	24	300,000	18	8,100	12	600	80	84,000	1.0	45,300	1.2	1,200
Appanoose	27	1,036,800	27	378,000	13	2,600	17	35,700	20	400	15	1,800	----	----------	35	11,900	0.8	34,000	1.2	900
Audubon	28	2,352,000	26	897,000	14	65,800	22	2,400	25	117,500	----	----------	----	----------	75	66,000	1.0	32,000	1.0	2,600
Benton	46	5,658,000	32	2,492,800	15	21,000	25	3,200	27	162,000	15	7,000	----	----------	62	93,000	1.2	56,400	1.6	6,400
Black Hawk	45	4,027,500	34	1,842,800	15	5,300	25	12,500	28	78,400	17	33,000	14	560	60	118,200	1.8	62,000	1.8	18,000
Boone	34	3,383,000	32	2,128,000	16	20,800	23	4,600	24	5,300	16	1,920	----	----------	70	85,400	1.0	26,000	0.8	12,400
Bremer	42	2,318,400	32	1,654,400	16	12,000	24	720	28	8,400	19	11,400	----	----------	72	101,000	1.4	26,800	1.1	22,000
Buchanan	45	3,690,000	33	1,617,000	16	15,200	24	11,300	27	64,800	20	11,600	15	150	95	96,900	1.4	58,000	1.2	14,600
Buena Vista	37	3,700,000	25	1,865,000	19	9,500	22	1,300	25	16,200	20	500	10	600	88	152,000	0.6	16,200	0.8	12,800
Butler	40	3,900,000	27	1,890,000	12	5,000	20	2,000	21	26,200	18	30,200	----	----------	86	150,500	1.1	31,900	1.0	10,600
alhoun	30	3,480,000	25	2,275,000	14	3,800	15	750	24	16,200	20	4,000	4	920	41	46,000	0.8	15,200	1.0	15,400
Carroll	29	3,233,500	27	1,637,900	16	100,800	22	880	22	66,000	----	----------	----	----------	62	136,400	1.1	35,700	1.1	12,400
Cass	21	2,221,800	22	781,000	12	127,200	23	64,000	25	50,000	17	700	----	----------	55	82,500	1.0	42,900	2.0	4,000
Cedar	44	4,268,000	33	1,131,900	15	35,200	25	92,500	29	246,500	15	6,000	----	----------	105	115,500	1.2	55,200	1.0	250
Cerro Gordo	33	3,036,000	26	1,721,200	15	12,000	18	4,000	21	40,300	10	1,200	9	3,000	80	112,000	0.9	26,100	1.1	12,400
Cherokee	36	3,996,000	23	1,729,600	17	17,000	22	1,100	18	45,000	----	----------	12	360	85	148,000	0.5	16,900	1.2	13,000
Chickasaw	40	2,440,000	29	1,696,500	13	31,200	23	1,150	27	105,300	19	2,500	13	10,400	71	78,000	1.4	42,300	1.5	18,700
Clarke	23	1,081,000	25	435,000	13	1,600	21	13,000	22	5,000	12	240	----	----------	35	12,200	0.4	12,700	0.3	75
Clay	24	1,992,000	18	1,256,400	12	10,800	14	700	17	12,400	13	520	8	3,440	79	79,000	0.5	15,000	0.6	13.200
Clayton	44	3,036,000	31	1,788,700	14	21,700	17	12,200	27	378,000	21	18,700	----	----------	114	215,500	1.3	72,800	2.0	3,400
Clinton	46	5,083,000	27	1,198,800	15	40,500	24	72,000	26	145,600	20	16,000	----	----------	90	99,000	0.9	57,400	2.0	6,000
Crawford	30	3,840,000	25	1,525,000	13	188,500	24	33,300	27	143,000	----	----------	----	----------	65	136,500	1.0	46,000	1.2	6,500
Dallas	31	3,503,000	29	1,421,000	15	41,000	24	36,000	25	10,700	16	2,700	----	----------	62	51,500	0.9	26,100	0.9	5,300
Davis	22	1,108,800	19	380,000	10	1,200	12	52,800	----	----------	13	2,100	----	----------	16	8,700	0.7	32,200	0.8	75
Decatur	22	1,419,000	23	529,000	15	900	17	54,400	18	360	14	2,100	9	800	13	4,700	0.8	35,600	0.7	230
Delaware	43	3,311,000	30	1,287,000	16	7,500	21	1,900	30	312,000	19	20,900	----	----------	57	62,700	1.4	58,100	1.[illegible]	9,100
Des Moines	42	2,545,200	26	629,200	8	2,320	16	139,200	20	14,000	16	4,300	----	----------	32	35,200	0.8	19,600	1.[illegible]	190
Dickinson	23	1,449,000	15	660,000	11	25,300	12	960	12	20,400	15	600	7	3,500	102	88,700	0.6	11,200	0.[illegible]	11,600
Dubuque	45	2,790,000	32	1,568,000	16	16,300	17	4,400	29	118,900	21	9,700	----	----------	130	247,000	1.0	55,000	1.[illegible]	800
Emmet	27	1,155,600	20	774,000	12	14,400	----	----------	18	21,600	12	600	6	4,800	65	47,400	0.4	9,100	0.[illegible]	6,000

FINAL CROP REPORT, 1911

AVERAGE YIELD PER ACRE AND TOTAL PRODUCT—BY COUNTIES

Counties	Corn		Oats		Spring Wheat		Winter Wheat		Barley		Rye		Flax Seed		Potatoes		Hay—Tame		Hay—Wild	
	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Bushels per acre	Total Bushels	Tons per acre	Total Tons	Tons per acre	Total Tons
Fayette	44	3,740,000	32	2,112,000	16	21,600	24	5,800	27	216,000	21	10,500	----	----------	66	103,600	1.1	60,500	0.6	7,200
Floyd	34	2,461,600	28	1,937,600	13	15,600	18	2,700	26	44,200	18	8,600	10	3,300	90	126,000	1.2	38,400	1.0	5,200
Franklin	37	3,293,000	29	2,059,000	15	15,000	0	2,800	26	37,400	17	2,200	11	1,900	78	128,700	1.2	35,400	0.9	15,000
Fremont	19	2,128,000	14	190,400	12	46,800	22	107,800	22	2,600	17	2,900	----	----------	21	16,000	0.7	14,400	1.0	3,600
Greene	29	3,509,000	26	1,586,000	17	9,200	21	250	20	12,800	20	400	6	150	44	42,200	0.9	25,500	0.9	11,200
Grundy	38	3,534,000	33	2,319,900	15	10,400	23	6,400	28	86,800	16	500	----	----------	80	568,000	1.1	29,700	0.9	6,700
Guthrie	28	2,548,000	26	1,099,800	14	37,800	27	14,800	25	27,500	18	360	----	----------	58	40,600	1.1	42,400	1.4	5,000
Hamilton	38	4,066,000	31	2,294,000	13	15,600	20	18,400	24	5,300	20	800	11	930	75	67,500	1.4	39,200	1.0	16,500
Hancock	26	2,236,000	22	1,463,000	12	48,000	17	1,500	22	63,800	17	3,400	9	4,140	76	83,600	0.6	16,500	1.0	19,400
Hardin	38	3,572,000	31	2,154,500	14	28,000	21	12,600	29	23,200	18	540	----	----------	68	224,400	1.1	32,500	1.2	11,600
Harrison	22	2,882,000	30	684,000	13	299,000	22	151,800	25	36,200	17	1,360	----	----------	38	52,400	0.5	10,200	0.5	4,800
Henry	43	2,902,500	26	754,000	10	1,700	16	49,600	19	1,700	17	4,900	----	----------	32	15,400	1.0	28,300	----	----------
Howard	33	1,362,900	27	1,225,800	14	26,600	18	2,000	25	205,000	15	750	9	23,400	103	82,400	1.4	52,600	1.1	9,700
Humboldt	28	1,974,000	25	1,357,500	15	46,500	19	2,100	24	9,400	20	200	5	2,300	65	51,400	0.7	15,800	0.6	8,400
Ida	27	2,403,000	21	1,018,500	15	35,900	18	720	18	135,000	15	150	10	300	43	47,300	0.7	20,400	0.9	2,200
Iowa	44	3,960,000	28	1,078,000	13	34,300	27	16,700	23	20,700	20	5,800	----	----------	77	107,800	1.4	64,400	1.9	1,800
Jackson	43	2,580,000	27	777,600	17	29,200	20	14,800	25	86,800	19	12,400	----	----------	150	15,000	1.0	59,400	1.0	880
Jasper	39	5,011,500	24	1,264,800	11	86,900	21	46,200	25	16,700	16	2,700	----	----------	73	89,100	0.9	44,600	1.1	1,600
Jefferson	31	1,788,700	21	497,700	11	9,100	15	76,500	18	7,000	15	2,600	----	----------	18	10,100	0.7	2,450	1.0	10
Johnson	44	3,586,000	31	1,261,700	12	28,800	21	63,000	26	36,400	18	14,900	----	----------	72	92,200	1.1	53,100	0.5	340
Jones	44	3,344,000	31	992,000	13	8,200	22	15,800	29	179,800	19	10,300	----	----------	80	56,000	1.5	78,000	1.0	350
Keokuk	42	3,717,000	27	923,400	10	36,800	18	38,500	20	29,600	15	5,100	----	----------	31	26,000	0.8	37,200	0.6	100
Kossuth	28	3,500,000	22	2,420,000	11	50,600	17	1,600	22	50,600	16	160	4	5,600	48	84,000	0.6	23,800	0.6	30,000
Lee	31	1,506,600	22	572,000	12	840	14	175,000	20	2,600	13	15,600	----	----------	57	58,700	0.8	26,600	0.6	75
Linn	46	4,370,000	32	1,619,200	15	33,000	24	9,600	26	45,200	18	15,100	----	----------	68	112,800	1.3	65,000	1.2	4,050
Louisa	41	2,451,800	26	501,800	10	13,000	15	180,000	18	4,700	14	19,300	----	----------	34	15,000	0.9	16,500	1.5	560
Lucas	25	1,200,000	28	512,400	15	11,500	19	43,700	----	----------	12	1,000	----	----------	31	8,400	0.7	27,300	0.8	130
Lyon	20	2,000,000	18	1,611,000	12	18,200	13	1,800	16	240,000	12	360	8	1,100	75	150,000	0.2	4,300	1.0	10,600
Madison	24	1,956,000	27	612,900	15	28,500	26	31,200	24	44,200	18	900	----	----------	63	48,500	0.9	34,200	0.7	1,100
Mahaska	35	2,415,000	23	561,200	13	37,700	17	25,500	19	19,000	14	2,400	----	----------	37	20,700	0.8	22,400	0.8	200
Marion	35	3,255,000	26	663,000	11	77,000	16	72,000	25	80,000	15	20,500	2	960	58	150,800	1.0	36,100	1.0	760
Marshall	41	4,407,500	29	1,798,000	15	36,400	23	64,400	24	18,500	15	1,800	----	----------	72	172,800	0.9	34,200	0.9	1,000
Mills	22	1,689,600	20	344,000	12	58,800	23	57,500	21	11,100	17	850	----	----------	35	20,300	1.0	18,500	0.8	2,400

Mitchell ------	34	1,904,000	26	1,991,600	13	31,200	19	1,150	27	120,100	16	320	10	25,000	130	236,600	1.1	32,20	1.0	3,000
Monona ------	30	3,774,000	22	528,000	13	208,000	22	356,400	23	59,800	18	1,600	8	120	38	45,600	0.7	9,90	1.0	14,400
Monroe -------	26	894,400	26	236,600	13	40,300	20	54,000	25	1,750	16	800	----	----------	20	5,800	0.5	17,55	---	----------
Montgomery -	23	1,994,100	22	356,400	11	117,700	23	142,600	20	13,800	15	750	----	----------	16	13,300	0.5	14,80	0.6	560
Muscatine ----	46	3,059,000	26	520,000	14	26,600	22	143,000	25	112,500	15	42,000	----	----------	70	175,000	1.0	28,60	1.0	1,300
O'Brien -----	26	2,366,000	18	1,315,800	13	14,300	17	500	17	190,400	13	70	8	2,800	85	157,250	0.4	13,30	0.5	4,300
Osceola -----	25	1,450,000	19	1,183,700	15	4,800	16	160	16	88,000	10	100	8	8,800	90	105,300	0.6	11,40	1.0	9,500
Page ----------	26	2,405,000	23	460,000	13	81,200	23	163,300	23	16,800	15	2,400	----	----------	34	21,800	1.0	34,00	1.5	1,800
Palo Alto ---	26	1,794,000	16	976,000	15	9,600	16	1,400	19	11,400	19	1,300	5	3,250	82	72,200	0.4	7,20	0.5	16,000
Plymouth ----	30	4,635,000	18	1,710,000	13	351,000	17	27,200	21	172,200	14	560	11	660	88	189,200	0.6	20,40	0.6	16,100
Pocahontas --	36	3,546,000	26	2,080,000	15	12,100	20	2,000	23	7,400	20	800	7	4,900	55	66,000	0.7	13,00	0.7	17,000
Polk ----------	32	3,318,400	23	862,500	13	100,100	21	92,400	22	6,600	16	1,900	----	----------	41	90,200	0.9	34,200	0.6	1,900
Pottawattamie	21	3,759,000	23	1,058,000	11	198,000	25	92,500	26	96,200	14	1,050	----	----------	52	138,840	0.7	28,700	1.0	10,200
Poweshiek ----	42	3,948,000	23	1,005,100	10	26,400	20	8,800	20	33,600	17	1,360	----	----------	90	99,000	0.6	24,600	1.0	220
Ringgold ---	25	1,725,000	21	546,000	14	1,540	18	25,600	18	900	16	640	----	----------	47	15,500	0.8	40,800	0.6	2,500
Sac -----------	35	3,850,000	25	1,740,000	13	11,700	20	1,400	25	98,000	----	----------	7	105	64	86,400	0.8	24,800	0.8	8,800
Scott ---------	46	3,220 000	31	759,500	16	75,200	22	198,000	25	400,000	17	29,900	----	----------	110	825,000	1.0	34,000	1.3	3,500
Shelby --------	27	3,180,600	23	977,500	13	149,500	21	9,500	24	216,000	17	760	----	----------	48	69,100	0.9	33,900	1.0	5,900
Sioux ---------	26	3,614,000	22	1,892,000	13	179,400	21	8,400	16	280,000	12	120	9	540	107	235,400	0.8	23,700	1.3	24,500
Story ---------	36	4,230,000	31	1,953,000	13	17,500	24	28,800	24	4,800	18	1,440	10	100	48	36,000	1.6	53,700	1.1	9,300
Tama -------	44	5,588,000	25	1,537,500	13	73,000	24	8,600	22	110,000	16	1,600	11	165	97	268,700	0.8	39,600	1.0	2,400
Taylor ------	26	1,950,000	28	672,000	18	10,200	21	48,300	24	18,000	16	640	----	----------	39	22,600	1.2	50,000	1.2	660
Union --------	26	1,612,000	21	462,000	12	2,400	16	7,200	24	9,100	16	480	----	----------	26	20,300	0.9	31,500	1.0	950
Van Buren	33	1,584,000	22	433,400	10	1,000	13	88,400	18	2,900	14	2,240	----	----------	15	9,500	0.8	32,800	0.7	20
Wapello ------	28	1,484,000	24	472,800	13	6,200	18	84,200	20	7,600	15	4,200	----	----------	25	24,500	0.8	25,600	0.7	20
Warren -------	21	1,659,000	23	483,000	13	40,300	25	131,300	20	15,400	20	5,000	----	----------	94	87,400	0.8	33,000	0.7	520
Washington --	44	3,872,000	30	1,281,000	11	18,700	22	67,100	26	13,000	17	1,700	----	----------	29	6,100	0.9	36,000	----	----------
Wayne --------	25	1,575,000	29	835,200	13	1,400	18	19,800	19	280	13	780	----	----------	23	4,600	0.7	36,000	0.6	60
Webster ------	35	4,147,500	28	2,912,000	16	58,700	20	1,600	24	7,900	20	260	9	1,980	50	105,000	1.0	26,600	1.0	25,500
Winnebago ---	29	1,363,000	21	672,000	13	169,000	18	270	22	72,600	16	1,300	7	5,180	85	83,300	0.6	12,400	1.1	26,400
Winneshiek ---	36	2,296,800	29	1,760,000	15	121,500	17	2,900	24	412,800	21	7,800	11	18,700	120	135,600	1.5	83,200	1.6	7,600
Woodbury ---	31	5,037,500	22	1,302,000	12	110,400	22	118,800	18	90,000	15	750	10	200	55	118,200	0.7	22,400	0.6	7,800
Worth --------	34	1,734,000	25	1,200,000	13	156,000	16	240	22	78,100	17	1,000	10	24,000	92	64,400	0.9	19,000	1.1	21,000
Wright -------	31	2,790,000	28	2,116,800	15	30,500	20	2,500	22	33,000	18	450	8	4,000	44	46,600	1.2	38,000	0.8	11,000
Total		281,366,600		120,208,300		4,674,500		3,959,000		7,197,090		486,130		173,710		9,386,390		3,246,200		683,385
Averages-----	32.9		25.7		13.1		19.7		22.9		16.8		8.5		70.7		0.8		0.9	

Statistics by counties showing acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, section 1, Acts of the Thirty-third General Assembly; will be found in part 3 of this year book.

PART II

STATISTICAL TABLES

OF

IOWA'S PRINCIPAL FARM CROPS

CORN CROPS—1880, 1885, 1890.

Statistics Compiled from Reports of Secretary of Iowa Agricultural Society.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1880	41	230,633,200	$.25	$57,658,300	5,625,200
1885	33	224,636,522	.23	51,666,400	6,803,834
1890	28	239,675,156	.41	98,266,814	8,559,827

CORN CROPS—1896-1911.

Statistics Compiled from Reports of Crop Service Division of Iowa State Department of Agriculture.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1896	39	312,692,210	$.14	$ 43,916,900	8,043,390
1897	29	239,452,150	.17	40,706,860	8,253,522
1898	34.5	289,214,850	.23	66,519,400	8,396,286
1899	36.3	306,852,710	.23	70,429,410	8,460,521
1900	40.3	345,055,040	.27	93,164,860	8,618,660
1901	26.2	227,908,850	.50	113,954,000	8,687,480
1902	34	296,950,230	.28	83,432,700	8,700,000
1903	31	230,511,310	.36	82,984,071	7,398,320
1904	36	323,853,330	.35	113,348,605	9,000,000
1905	37.2	345,871,840	.35	121.055,144	9,285,150
1906	41	388,836,252	.33	128,155,143	9,443,960
1907	29.6	246,898,460	.44	108,635,322	8,858,000
1908	35.9	301,873,150	.51	153,955,306	8,399,610
1909	34.6	308,036,868	.51	157,098,802	8,681,850
1910	39.8	334,374,428	.36	120,374,794	8,399,712
1911	32.9	281,366,600	.54	151,937,964	8,534,500
Average 16 years	34.8	314,165,421	.35	103,104,334	8,572,560

OATS—1880, 1885, 1890.

Statistics Compiled from Reports of Secretary of Iowa Agricultural Society.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1880	35	42,288,800	$.23	$ 9,496,424	1,179,680
1885	32.5	71,737,900	.21	15,064,959	2,207,320
1890	29	80,002,735	.38	30,401,039	2,758,715

OATS—1896-1911.

Statistics Compiled from Reports of Crop Service Division of Iowa State Department of Agriculture.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1896	26	73,450,000	$.12	$ 8,814,000	2,825,000
1897	30	132,517,150	.16	21,211,380	4,405,782
1898	32	139,915,340	.21	29,383,220	4,299,243
1899	34.5	140,647,300	.19	26,722,980	4,069,557
1900	35	138,832,300	.20	27,766,460	3,991,690
*1901	32	114,883,000	.35	40,209,230	3,799,220
1902	31	92,907,900	.24	22,297,000	3,770,624
†1903	25.9	99,012,660	.30	29,703,798	3,822,822
1904	29.4	118,435,570	.26	30,793,284	4,018,980
1905	33.8	146,439,240	.25	36,609,810	4,177,545
1906	34	142,036,530	.27	38,349,878	4,166,800
1907	24.5	111,190,400	.39	43,364,256	4,536,170
1908	25.5	112,830,490	.43	48,517,110	4,431,650
1909	27	117,083,850	.35	40,979,348	4,312,134
1910	36	169,207,098	.27	45,685,916	4,697,749
1911	25.7	120,208,300	.41	59,285,403	4,660,500
Average 16 years	30.1	123,099,821	.28	34,355,817	4,124,092

* Short corn crop. † Excessive moisture.

WHEAT—1880, 1885, 1900.

Statistics Compiled from Reports of Secretary of Iowa Agricultural Society.

Year	Average yield per acre spring wheat	Average yield per acre winter wheat	Total yield spring wheat	Total yield winter wheat	Total yield all wheat	Average farm price Dec. 1st	Total farm value Dec. 1st	Acreage
1880	10.5	------	------------	------------	36,099,760	$.82	$29,501,803	3,437,948
1885	12	------	------------	------------	31,776,108	.61	19,383,426	2,648,009
1890	11.7	------	------------	------------	25,114,552	.78	19,589,350	2,092,896

WHEAT—1896-1911.

Statistics Compiled from Reports of Crop Service Division of Iowa State Department of Agriculture.

Year	Average yield per acre spring wheat	Average yield per acre winter wheat	Total yield spring wheat	Total yield winter wheat	Total yield all wheat	Average farm price Dec. 1st	Total farm value Dec. 1st	Acreage
1896	13	17	7,047,235	3,351,550	10,398,785	$.57	$ 6,020,000	739,245
1897	13.4	13	12,941,600	1,671,454	14,613,054	.74	10,813,650	1,222,974
1898	14.8	16.5	19,152,352	3,168,916	22,321,268	.53	11,602,000	1,484,682
1899	12.7	11	19,574,792	326,040	19,900,830	.58	10,701,490	1,559,931
1900	14.3	13.3	20,280,280	1,018,070	21,288,350	.60	12,799,370	1,492,630
1901	15.3	17.6	17,429,230	865,770	18,295,000	.60	10,965,000	1,188,239
1902	13	18	12,680,800	825,045	13,532,845	.53	7,062,640	1,021,281
1903	12.6	16.9	9,481,350	1,435,380	10,916,730	.67	7,167,643	837,422
1904	9.4	14.3	7,080,430	1,017,000	8,097,430	.89	7,044,809	846,070
1905	14.[illegible]	20.[illegible]	5,155,760	1,253,020	6,408,780	.72	4,614,321	420,068
1906	1[illegible]	23	5,603,880	1,566,050	7,169,930	.64	4,579,697	443,810
1907	13	19.8	4,402,320	1,698,101	6,100,421	.82	4,974,302	424,407
1908	15.4	19.7	4,968,250	1,678,540	6,646,790	.86	5,716,239	4[illegible]5,614
1909	12.5	18.2	3,809,460	3,621,953	7,431,413	.90	6,688,272	502,762
1910	19.3	18.5	6,773,799	3,635,405	10,409,204	.86	8,951,915	546,179
1911	13.1	19.7	4,674,500	3,959,000	8,633,500	.89	7,683,715	559,272
Aver. 16 yrs.	13.8	17.3	10,066,002	1,936,956	12,010,271	$.71	$7,961,566	856,009

BARLEY—1880, 1885, 1890.

Statistics Compiled from Reports of Secretary of Iowa Agricultural Society.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1880	23	4,600,000	$.42	$1,932,000	200,000
1885	27	5,737,095	.33	1,893,241	212,485
1890	24	3,664,368	.47	1,722,254	152,682

BARLEY—1896-1911.

Statistics Compiled from Reports of Crop Service Division of Iowa State Department of Agriculture.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1896	20	15,881,618	.20	$3,176,320	547,642
1897	25	14,076,850	.23	3,237,670	551,867
1898	27.5	14,138,000	.30	4,209,740	509,580
1899	25.6	14,719,310	.30	4,415,570	557,598
1900	25.3	12,695,200	.33	4,189,410	501,740
1901	24.2	14,654,410	.44	6,447,940	604,610
1902	25	15,380,910	.33	5,075,710	594,070
1903	24.7	12,179,790	.37	4,506,522	493,108
1904	25	12,317,710	.34	4,188,021	493,370
1905	27.5	15,566,770	.33	5,137,034	565,700
1906	26.5	14,858,830	.36	5,349,178	558,870
1907	24.6	9,893,330	.60	5,935,998	397,210
1908	26.7	10,629,660	.50	5,314,830	307,408
1909	17.5	10,352,040	.46	4,761,938	562,622
1910	25.9	8,614,541	.56	4,824,143	324,571
1911	22.9	7,197,090	.90	6,477,381	313,147
Average 16 years	25.2	12,697,254	$.41	$4,827,963	492,695

RYE—1880, 1885, 1890.

Statistics Compiled from Reports of Secretary of Iowa Agricultural Society.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1880	14	574,000	$.38	$218,120	41,000
1885	15	1,710,000	.42	718,200	114,000
1890	16	1,608,960	.51	820,570	100,560

RYE—1896-1911.

Statistics Compiled from Reports of Crop Service Division of Iowa State Department of Agriculture.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1896	16	1,891,716	$.25	$ 486,080	121,670
1897	15	3,490,344	.34	1,186,710	226,198
1898	16	3,370,550	.38	1,280,860	210,399
1899	16.3	2,051,160	.40	824,463	126,236
1900	15.6	1,621,130	.43	697,300	103,680
1901	15.8	859,630	.48	859,630	54,390
1902	17	882,830	.40	353,132	55,150
1903	15.6	1,923,060	.44	846,146	123,273
1904	15	1,517,090	.54	819,228	99,500
1905	18	1,283,500	.52	667,420	71,305
1906	17.5	1,093,160	.48	520,719	62,530
1907	17	900,060	.61	549,036	52,975
1908	17.1	869,072	.63	547,515	50,823
1909	13.4	556,846	.60	334,107	41,566
1910	13.8	407,078	.61	248,305	29,502
1911	16.8	486,130	.79	384,043	28,710
Average 16 years	16.0	1,450,834	$.49	$ 662,827	91,120

HAY—1880, 1885, 1890.

Statistics Compiled from Reports of Secretary of Iowa Agricultural Society.

Year	Average yield tame hay	Total yield—tons	Average yield wild hay	Total yield—tons	Total yield all hay—tons	Average value per ton—tame hay	Average value per ton—wild hay	Total value—all hay	Acreage
*1880									
*1885									
1890	1.5	4,991,335				$6.84		$34,140,731	3,327,557

*No authentic data obtainable.

HAY—1896-1911.

Statistics Compiled from Reports of Crop Service Division of Iowa State Department of Agriculture.

Year	Average yield tame hay	Total yield—tons	Average yield wild hay	Total yield—tons	Total yield all hay—tons	Average value per ton—tame hay	Average value per ton—wild hay	Total value—all hay	Acreage
1896	1.5	3,376,440	1.5	2,325,000	5,701,440	$4.50	$3.30	$22,782,000	3,800,960
1897	1.6	3,362,287	1.3	1,939,117	5,301,320	4.50	3.70	22,304,000	3,315,972
1898	1.7	3,852,561	1.2	1,645,419	5,498,080	4.30	3.50	22,281,000	4,104,967
1899	1.5	3,852,941	1.2	1,458,195	5,311,130	5.75	4.90	29,350,000	3,742,655
1900	1.4	3,609,010	1.	1,530,050	5,139,060	6.50	5.00	31,120,000	4,078,960
1901	1.4	3,711,680	1.2	1,268,700	4,980,380	8.25	6.30	38,712,000	3,608,450
1902	1.8	4,439,040	1.3	1,202,860	5,641,900	6.80	5.50	36,787,322	3,391,408
1903	1.9	5,216,404	1.3	1,191,345	6,407,749	5.75	4.95	35,891,480	3,651,894
1904	1.5	4,499,090	1.2	1,091,590	5,590,680	5.62	4.50	30,197,040	3,707,298
1905	1.8	6,477,300	1.2	1,313,310	7,790,610	5.50	4.50	41,535,045	4,692,925
1906	1.3	4,892,950	1.2	1,110,690	6,003,640	7.50	5.50	42,805,920	4,418,600
1907	1.5	5,117,878	1.3	1,172,590	6,290,468	8.50	6.75	51,316,945	4,268,730
1908	1.8	5,838,640	1.6	1,445,989	7,284,620	6.16	5.09	43,326,060	4,146,870
1909	1.7	5,828,580	1.4	1,219,630	7,048,210	7.42	5.90	50,443,781	4,299,740
1910	1.1	3,876,844	1.1	807,280	4,684,124	10.15	8.00	45,808,207	4,367,725
1911	0.8	3,246,200	0.9	683,385	3,929,585	13.44	10.28	50,653,116	4,214,540
Av. 16 yrs.	1.5	4,449,865	1.2	1,337,822	5,787,687	6.92	5.48	37,207,120	3,988,231

FLAX—1880, 1885, 1890.

Statistics Compiled from Reports of Secretary of Iowa Agricultural Society.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1880	10	1,034,200	$1.00	$1,034,200	103,420
*1885			.94	2,503,293	
1890	10.5	2,929,081	1.10	3,276,989	283,722

*No other data.

FLAX—1896-1911.

Statistics Compiled from Reports of Crop Service Division of Iowa State Department of Agriculture.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1896	9.5	1,946,720	$ .95	$1,135,000	199,128
1897	10	2,498,600	.87	2,173,782	249,882
1898	10.5	2,376,600	.80	1,901,280	225,014
1899	11.2	1,597,790	1.04	1,661,898	142,175
1900	11.7	1,222,980	1.50	1,834,470	108,850
1901	18.8	916,890	1.29	916,890	104,140
1902	8	755,350	1.00	725,350	94,767
1903	8.7	355,160	.78	277,024	40,823
1904	11	591,140	1.15	679,811	51,370
1905	9.8	173,770	.90	156,393	17,732
1906	10.7	205,280	.97	200,091	19,160
1907	10.8	461,960	.98	408,640	42,790
1908	11.3	461,580	1.01	466,195	40,833
1909	10	173,650	1.29	223,647	17,365
1910	8.6	170,387	2.28	388,482	19,821
1911	8.5	173,710	2.00	347,420	20,205
Average 16 years	10.6	880,098	$1.18	$843,523	87,128

POTATOES—1880, 1885, 1890.

Statistics Compiled from Reports of Secretary of Iowa Agricultural Society.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1880	95	10,165,000	$.35	$3,557,750	107,000
1885	82	12,874,000	.40	5,149,600	157,000
1890	49	8,332,352	.81	6,749,205	170,048

POTATOES—1896-1911.

Statistics Compiled from Reports of Crop Service Division of Iowa State Department of Agriculture.

Year	Average yield per acre	Total yield	Average farm value per bushel Dec. 1st	Total value	Acreage
1896	87	14,814,795	$.21	$2,962,950	170,285
1897	60	10,051,910	.45	4,523,360	163,248
1898	76	12,538,410	.31	3,826,900	164,456
1899	98	15,252,934	.24	3,660,714	154,243
1900	78	10,850,900	.40	4,340,360	149,680
*1901	37.4	5,098,460	.90	4,588,610	136,300
1902	91	12,051,670	.34	4,095,650	138,484
†1903	53.8	6,082,694	.75	4,562,020	113,433
1904	125	14,255,680	.28	3,991,590	113,250
1905	84	9,352,190	.50	4,676,045	111,335
1906	101	11,697,500	.48	5,614,800	115,310
1907	84	9,847,430	.62	6,105,406	117,350
1908	89.9	10,658,290	.59	6,288,391	118,517
1909	90	12,427,595	.53	6,586,625	138,139
1910	75.3	9,986,881	.58	5,792,391	132,640
1911	71	9,386,390	.71	8,353,887	132,865
Average 16 years	81.3	10,897,108	$.49	$4,998,106	135,596

*Very dry.
†Very wet.

ACREAGE, PRODUCTION AND VALUE OF THE PRINCIPAL FARM CROPS OF THE UNITED STATES IN 1909, 1910 AND 1911, BY STATES, REVISED TO 1909 CENSUS BASIS.

Figures taken from the December, 1911 Supplement of the Crop Reporter issued by the United States Department of Agriculture.

CORN.

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
Maine	18,000	17,000	15,213	44.0	46.0	42.7	792,000	782,000	648,882	90	71	80	713,000	555,000	519,000
New Hampshire	23,000	22,000	19,814	45.0	46.0	46.2	1,035,000	1,012,000	916,263	82	69	76	849,000	698,000	696,000
Vermont	46,000	44,000	42,887	41.0	43.0	40.0	1,886,000	1,892,000	1,715,133	80	66	73	1,509,000	1,249,000	1,252,000
Massachusetts	47,000	45,000	41,755	44.0	45.5	48.6	2,068,000	2,048,000	2,029,381	83	70	81	1,716,000	1,434,000	1,644,000
Rhode Island	11,000	10,000	9,679	45.0	40.0	41.1	495,000	400,000	398,193	95	83	97	470,000	332,000	386,000
Connecticut	59,000	57,000	52,717	48.5	53.2	48.0	2,862,000	3,032,000	2,530,542	83	68	75	2,375,000	2,062,000	1,898,000
New York	530,000	525,000	512,442	38.5	38.3	35.4	20,405,000	20,108,000	18,115,634	77	63	74	15,712,000	12,668,000	13,406,000
New Jersey	270,000	267,000	265,441	36.8	36.0	37.7	9,936,000	9,612,000	10,000,731	71	60	71	7,055,000	5,767,000	7,101,000
Pennsylvania	1,435,000	1,430,000	1,380,671	44.5	41.0	30.1	63,858,000	58,630,000	41,494,237	68	59	70	43,423,000	34,592,000	29,046,000
Delaware	195,000	193,000	188,755	34.0	31.8	25.6	6,630,000	6,137,000	4,839,548	61	52	58	4,044,000	3,191,000	2,807,000
Maryland	670,000	660,000	647,438	36.5	33.5	27.7	24,455,000	22,110,000	17,924,103	63	58	65	15,407,000	12,824,000	11,651,000
Virginia	1,980,000	1,960,000	1,860,359	24.0	25.5	20.6	47,520,000	49,980,000	38,295,141	73	65	74	34,690,000	32,487,000	28,338,000
West Virginia	707,000	700,000	676,311	25.7	26.0	25.3	18,170,000	18,200,000	17,119 097	77	68	74	13,991,000	12,376,000	12,668,000
North Carolina	2,700,000	2,650,000	2,459,457	18.4	18.6	13.9	49,680,000	49,290,000	34,063,531	82	76	85	40,738,000	37,460,000	28,954,000
South Carolina	1,790,000	1,707,000	1,565,832	18.2	18.5	13.3	32,578,000	31,580,000	20,871,946	91	82	90	29,646,000	25,896,000	18,785,000
Georgia	3,692,000	3,585,000	3,383,061	16.0	14.5	11.6	59,072,000	51,982,000	39,374,569	83	78	86	49,030,000	40,546,000	33,862,000
Florida	636,000	630,000	605,771	14.6	13.0	11.3	9,286,000	8,190,000	7,023,767	80	85	83	7,429,000	6,962,000	5,830,000
Ohio	3,900,000	3,960,000	3,916,050	38.6	36.5	40.2	150,540,000	144,540,000	157,513,300	58	46	56	87,313,000	66,488,000	88,207,000
Indiana	4,850,000	4,800,000	4,901,054	36.0	39.3	39.9	174,600,000	188,640,000	195,496,433	54	40	70	94,284,000	75,456,000	97,748,000
Illinois	10,150,000	10,250,000	10,045,839	33.0	39.1	38.8	334,950,000	400,775,000	390,218,676	55	38	52	184,222,000	152,294,000	202,914,000
Michigan	1,690,000	1,670,000	1,589,596	33.0	32.4	33.3	55,770,000	54,108,000	52,906,842	65	53	61	36,250,000	28,677,000	32,273,000
Wisconsin	1,600,000	1,520,000	1,458,020	36.3	32.5	33.7	58,080,000	49,400,000	49,163,034	60	52	60	34,848,000	25,688,000	29,498,000
Minnesota	2,200,000	2,040,000	2,004,068	33.7	32.7	33.8	74,140,000	66,708,000	67,897,051	53	45	49	39,294,000	30,019,000	33,270,000
Iowa	9,850,000	9,470,000	9,229,378	31.0	36.3	37.0	305,350,000	343,761,000	341,750,460	53	36	49	161,836,000	123,754,000	167,458,000
Missouri	7,100,000	7,500,000	7,113,953	26.0	33.0	26.9	192,400,000	247,500,000	191,427,087	60	44	59	115,440,000	108,900,000	112,942,000

CORN—CONTINUED

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
North Dakota	290,000	210,000	185,122	25.0	14.0	26.7	7,250,000	2,940,000	4,941,152	60	58	55	4,350,000	1,705,000	2,718,000
South Dakota	2,350,000	2,100,000	[illegible]	[illegible]	25.0	27.3	50,290,000	52,500,000	55,558,787	53	40	50	26,654,000	21,000,000	27,779,000
Nebraska	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24.8	159,950,000	191,365,000	180,132,807	55	36	50	87,972,000	68,891,000	90,066,000
Kansas	8,700,000	8,950,000	[illegible]	14.5	19.0	19.1	126,150,000	170,050,000	154,651,703	63	45	54	79,474,000	76,522,000	83,512,000
Kentucky	3,600,000	3,500,000	[illegible]	26.0	29.0	24.3	93,600,000	101,500,000	88,348,024	63	53	62	58,968,000	53,795,000	54,776,000
Tennessee	3,400,000	3,400,000	3,106,348	26.8	25.9	21.5	91,120,000	88,060,000	67,682,489	61	56	70	55,583,000	49,314,000	47,378,000
Alabama	3,000,000	2,850,000	[illegible]	18.0	18.0	11.9	54,000,000	51,300,000	30,695,737	78	71	85	42,120,000	36,423,000	26,091,000
Mississippi	2,850,000	2,590,000	[illegible]	19.0	20.5	13.1	54,150,000	53,095,000	28,478,067	72	63	81	38,988,000	33,450,000	23,067,000
Louisiana	1,850,000	1,782,000	[illegible]	18.0	23.6	16.3	33,300,000	42,055,000	26,010,361	70	55	69	23,310,000	23,130,000	17,947,000
Texas	7,300,000	6,800,000	[illegible]	9.5	20.6	11.7	69,350,000	140,080,000	75,498,695	80	63	76	55,480,000	88,250,000	57,379,000
Oklahoma	[illegible]	5,735,000	5,914,069	[illegible]	16.0	15.9	36,888,000	91,760,000	94,283,407	70	51	55	25,822,000	46,798,000	51,856,000
Arkansas	2,390,000	2,390,000	[illegible]	20.8	24.0	[illegible]	49,712,000	57,360,000	37,609,544	72	58	72	35,793,000	33,269,000	27,079,000
Montana	20,000	16,000	9,544	26.5	23.0	28.8	530,000	368,000	274,103	80	95	86	424,000	350,000	236,000
Wyoming	13,000	11,000	9,268	15.0	10.0	19.1	195,000	110,000	176,354	76	66	78	148,000	73,000	138,000
Colorado	373,000	346,000	[illegible]	14.0	19.9	15.0	5,222,000	6,885,000	4,903,804	78	60	70	4,073,000	4,131,000	3,432,000
New Mexico	54,000	89,000	[illegible]	24.5	23.0	13.5	1,322,000	2,047,000	1,164,970	84	90	90	1,110,000	1,842,000	1,048,000
Arizona	15,000	15,000	[illegible]	33.0	32.5	19.1	495,000	488,000	298,674	97	110	100	480,000	537,000	299,000
Utah	8,000	7,000	[illegible]	35.0	30.3	22.3	280,000	212,000	169,688	81	84	87	227,000	178,000	148,000
Nevada	1,000	1,000	[illegible]	30.0	30.0	35.5	30,000	30,000	20,773	90	100	87	27,000	30,000	18,000
Idaho	11,000	10,000	9,194	30.0	32.0	34.6	330,000	320,000	318,181	85	71	75	280,000	227,000	239,000
Washington	30,000	28,000	[illegible]	28.5	28.0	21.7	855,000	784,000	563,027	79	75	86	675,000	588,000	484,000
Oregon	20,000	18,000	17,289	28.5	25.5	26.1	570,000	459,000	451,757	80	80	80	456,000	367,000	361,000
California	51,000	50,000	[illegible]	36.0	37.5	24.5	1,836,000	1,875,000	1,273,901	90	80	91	1,652,000	1,500,000	1,159,000
United States	105,825,000	104,035,000	98,383,065	23.9	27.7	25.9	2,531,488,000	2,886,260,000	2,552,189,630	61.8	48.0	57.9	1,565,258,000	1,384,817,000	1,477,223,000

*Census.

†Statistics by counties, showing acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 83, section 1, Acts of the Thirty-third General Assembly will be found in part 3 of this year book.

WINTER WHEAT.*

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
New York	345,000	355,000		19.5	23.7		6,728,000	8,414,000		95	96		6,392,000	8,077,000	
New Jersey	84,000	84,000		17.4	18.5		1,462,000	1,551,000		96	98		1,404,000	1,523,000	
Pennsyvania	1,289,000	1,309,000		13.5	17.8		17,402,000	23,300,000		92	92		16,010,000	21,436,000	
Delaware	113,000	116,000		16.7	17.0		1,887,000	1,972,000		90	90		1,698,000	1,775,000	
Maryland	605,000	601,000		15.5	17.4		9,378,000	10,510,000		91	92		8,534,000	9,669,000	
Virginia	750,000	748,000		12.0	12.8		9,000,000	9,574,000		96	97		8,640,000	9,287,000	
West Virginia	238,000	241,000		11.5	12.5		2,737,000	3,012,000		102	102		2,792,000	3,072,000	
North Carolina	626,000	598,000		10.6	11.4		6,636,000	6,817,000		102	110		6,769,000	7,499,000	
South Carolina	83,000	77,000		11.4	11.0		946,000	847,000		123	126		1,164,000	1,067,000	
Georgia	145,000	141,000		12.0	10.5		1,740,000	1,480,000		114	130		1,984,000	1,924,000	
Ohio	2,265,000	2,125,000		16.0	16.2		36,240,000	34,425,000		91	90		32,978,000	30,982,000	
Indiana	2,337,000	2,256,000		14.7	15.6		34,354,000	35,194,000		89	87		30,575,000	30,619,000	
Illinois	2,625,000	2,444,000		16.0	15.0		42,000,000	36,660,000		89	88		37,380,000	32,261,000	
Michigan	1,025,000	936,000		18.0	18.0		18,450,000	16,848,000		88	89		16,236,000	14,995,000	
Wisconsin	90,000	86,000		17.5	20.0		1,575,000	1,720,000		90	92		1,418,000	1,582,000	
Iowa	287,000	187,000		19.7	21.2		5,654,000	3,964,000		88	85		4,976,000	3,369,000	
Missouri	2,300,000	1,881,000		15.7	13.8		36,110,000	25,958,000		88	87		31,777,000	22,583,000	
Nebraska	2,788,000	2,109,000		13.8	16.5		38,474,000	34,798,000		87	80		33,472,000	27,838,000	
Kansas	4,725,000	4,400,000		10.8	14.2		51,030,000	62,480,000		91	84		46,437,000	52,483,000	
Kentucky	780,000	767,000		12.7	12.8		9,906,000	9,818,000		92	93		9,114,000	9,131,000	
Tennessee	720,000	711,000		11.5	11.7		8,280,000	8,319,000		96	98		7,949,000	8,153,000	
Alabama	30,000	28,000		11.5	12.0		345,000	336,000		120	113		414,000	380,000	
Mississippi	9,000	5,000		12.0	14.0		108,000	70,000		100	116		108,000	81,000	
Texas	700,000	700,000		9.4	15.0		6,580,000	10,500,000		100	98		6,580,000	10,290,000	
Oklahoma	1,122,000	1,567,000		8.0	16.3		8,976,000	25,542,000		92	87		8,258,000	22,222,000	
Arkansas	96,000	87,000		10.5	13.9		1,008,000	1,209,000		90	94		907,000	1,136,000	
Montana	229,000	170,000		31.7	22.0		7,259,000	3,740,000		77	86		5,589,000	3,216,000	
Wyoming	24,000	21,000		26.0	25.0		624,000	525,000		94	95		587,000	499,000	
Colorado	178,000	153,000		18.0	23.0		3,201,000	3,519,000		81	82		2,691,000	2,886,000	
New Mexico	30,000	20,000		25.0	20.0		750,000	400,000		100	100		750,000	400,000	

WINTER WHEAT—CONTINUED.

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu	Bu	Bu	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
Arizona	25,000	25,000	----------	30.0	2.3	-----	750,000	558,000	----------	95	120	----	712,000	670,000	----------
Utah	150,000	133,000	----------	20.0	20.5	-----	3,000,000	2,726,000	----------	70	84	----	2,100,000	2,290,000	----------
Nevada	16,000	15,000	----------	23.0	24.0	-----	368,000	360,000	----------	95	109	----	350,000	392,000	----------
Idaho	347,000	312,000	----------	31.5	23.7	-----	10,930,000	7,394,000	----------	66	72	----	7,214,000	5,324,000	----------
Washington	920,000	851,000	----------	27.3	20.5	-----	25,116,000	17,446,000	----------	71	78	----	17,832,000	13,608,000	----------
Oregon	586,000	517,000	----------	22.2	23.7	-----	13,009,000	12,253,000	----------	75	84	----	9,757,000	10,293,000	----------
California	480,000	550,000	----------	18.0	18.0	----	8,640,000	9,900,000	----------	88	94	----	7,603,000	9,306,000	----------
United States	29,162,000	27,329,000	----------	14.8	15.9	-----	430,656,000	434,142,000	----------	88.0	88.1	----	379,151,000	382,318,000	----------

* Final Census figures, spring and winter wheat, for 1909 not yet available separately.

†Statistics by counties, showing **acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture,** from reports received, as required by **Chapter 86, section 1, Acts of the** Thirty-third General Assembly will be found in part 3 of this year book.

SPRING WHEAT.

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu	Bu	Bu	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
Maine	3,000	3,000		21.0	29.7		63,000	89,000		110	102		69,000	91,000	
Vermont	1,000	1,000		27.8	29.3		28,000	29,000		99	103		28,000	30,000	
Wisconsin	105,000	100,000		14.5	18.7		1,522,000	1,870,000		90	92		1,370,000	1,720,000	
Minnesota	4,350,000	4,000,000		10.1	16.0		43,935,000	64,000,000		92	94		40,420,000	60,160,000	
†Iowa	360,000	345,000		13.8	20.9		4,968,000	7,210,000		88	85		4,372,000	6,128,000	
North Dakota	9,150,000	7,700,000		8.0	5.0		73,200,000	38,500,000		89	90		65,148,000	34,650,000	
South Dakota	3,700,000	3,650,000		4.0	12.8		14,800,000	46,720,000		91	89		13,468,000	41,581,000	
Nebraska	310,000	285,000		10.0	13.9		3,100,000	3,962,000		87	80		2,697,000	3,170,000	
Kansas	85,000	90,000		4.2	8.4		357,000	756,000		91	84		325,000	635,000	
Montana	200,000	180,000		25.2	22.0		5,040,000	3,960,000		77	86		3,881,000	3,406,000	
Wyoming	45,000	35,000		26.0	25.0		1,170,000	875,000		94	95		1,100,000	831,000	
Colorado	260,000	250,000		19.5	21.9		5,070,000	5,475,000		84	82		4,259,000	4,490,000	
New Mexico	25,000	21,000		20.5	20.0		512,000	420,000		100	100		512,000	420,000	
Arizona	2,000	2,000		25.0	22.3		50,000	45,000		95	120		48,000	54,000	
Utah	75,000	65,000		27.0	25.3		2,025,000	1,644,000		70	84		1,418,000	1,381,000	
Nevada	20,000	15,000		32.5	29.0		650,000	435,000		95	109		618,000	474,000	
Idaho	170,000	160,000		29.0	20.4		4,930,000	3,264,000		66	72		3,254,000	2,350,000	
Washington	1,310,000	1,250,000		19.5	14.5		25,545,000	18,125,000		71	78		18,137,000	14,128,000	
Oregon	210,000	200,000		17.7	18.0		3,717,000	3,600,000		75	84		2,788,000	3,024,000	
United States	20,381,000	18,352,000		9.4	11.0		190,682,000	200,979,000		86	88.9		163,912,000	178,733,000	

* Final Census figures, spring and winter wheat, for 1909 not yet available separately.

†Statistics by counties, showing acreage, average yield and total yield of Iowa farm crops, compiled by the **Iowa Department of Agriculture**, from reports received, as required by Chapter 83, section 1, Acts of the Thirty-third General Assembly will be found in part 3 of this year book.

ALL WHEAT.*

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
Maine	3,000	3,000	3,407	21.0	29.7	25.0	63,000	89,000	85,119	110	102	110	69,000	91,000	94,000
Vermont	1,000	1,000	678	27.8	29.3	20.8	28,000	29,000	14,087	99	103	120	28,000	30,000	17,000
New York	345,000	355,000	289,130	19.5	23.7	23.0	6,728,000	8,414,000	6,664,121	95	96	111	6,392,000	8,077,000	7,397,000
New Jersey	84,000	84,000	83,637	17.4	18.5	17.8	1,462,000	1,554,000	1,489,233	96	98	109	1,404,000	1,523,000	1,623,000
Pennsylvania	1,289,000	1,309,000	1,225,558	13.5	17.8	17.6	17,402,000	23,300,000	21,564,479	92	92	109	16,010,000	21,436,000	23,505,000
Delaware	113,000	116,000	111,215	16.7	17.0	17.0	1,887,000	1,972,000	1,643,572	90	90	104	1,698,000	1,775,000	1,709,000
Maryland	605,000	604,000	589,893	15.5	17.4	17.4	9,378,000	10,510,000	9,463,457	91	92	110	8,534,000	9,669,000	10,410,000
Virginia	750,000	748,000	692,907	12.0	12.8	12.8	9,000,000	9,574,000	8,076,989	96	97	115	8,640,000	9,287,000	9,289,000
West Virginia	238,000	241,000	209,315	11.5	12.5	12.5	2,737,000	3,012,000	2,575,996	102	102	113	2,792,000	3,072,000	2,911,000
North Carolina	626,000	598,000	501,912	10.6	11.4	7.6	6,636,000	6,817,000	3,827,145	102	110	127	6,769,000	7,499,000	4,860,000
South Carolina	83,000	77,000	43,028	11.4	11.0	7.2	946,000	847,000	310,614	123	126	146	1,164,000	1,067,000	453,000
Georgia	145,000	141,000	93,065	12.0	10.5	8.1	1,740,000	1,480,000	752,858	114	130	145	1,984,000	1,924,000	1,092,000
Ohio	2,265,000	2,125,000	1,827,932	16.0	16.2	16.8	36,240,000	34,425,000	30,663,704	91	90	112	32,978,000	30,982,000	34,343,000
Indiana	2,337,000	2,256,000	2,082,835	14.7	15.6	16.3	34,354,000	35,194,000	33,935,972	89	87	110	30,575,000	30,619,000	37,330,000
Illinois	2,625,000	2,444,000	2,185,091	16.0	15.0	17.3	42,000,000	36,660,000	37,830,732	89	88	104	37,380,000	32,261,000	39,344,000
Michigan	1,025,000	936,000	802,137	18.0	18.0	20.0	18,450,000	16,848,000	16,025,791	88	89	112	16,236,000	14,995,000	17,949,000
Wisconsin	195,000	186,000	140,030	15.9	19.3	18.8	3,097,000	3,590,000	2,634,710	90	92	96	2,788,000	3,302,000	2,529,000
Minnesota	4,350,000	4,000,000	3,276,911	10.1	16.0	17.4	43,935,000	64,000,000	57,094,412	92	94	96	40,420,000	60,160,000	54,811,000
‡Iowa	647,000	532,000	526,777	16.4	21.0	15.3	10,622,000	11,174,000	8,055,944	88	85	93	9,348,000	9,497,000	7,492,000
Missouri	2,300,000	1,881,000	2,017,128	15.7	13.8	14.8	36,110,000	25,958,000	29,837,429	88	87	105	31,777,000	22,583,000	31,329,000
North Dakota	9,150,000	7,700,000	8,188,782	8.0	5.0	14.2	73,200,000	38,500,000	116,781,886	89	90	92	65,148,000	34,650,000	107,439,000
South Dakota	3,700,000	3,650,000	3,217,255	4.0	12.8	14.6	14,800,000	46,720,000	47,059,590	91	89	90	13,468,000	41,581,000	42,354,000
Nebraska	3,098,000	2,394,000	2,662,918	13.4	16.2	17.9	41,574,000	38,760,000	47,685,745	87	80	89	36,169,000	31,008,000	42,440,000
Kansas	4,810,000	4,490,000	5,972,975	10.7	14.1	13.0	51,387,000	63,236,000	77,563,615	91	84	96	46,762,000	53,118,000	71,461,000
Kentucky	780,000	767,000	681,323	12.7	12.8	12.8	9,906,000	9,818,000	8,739,260	92	93	111	9,114,000	9,131,000	9,701,000
Tennessee	720,000	711,000	619,861	11.5	11.7	10.5	8,280,000	8,319,000	6,516,539	96	98	115	7,949,000	8,153,000	7,494,000
Alabama	30,000	28,000	13,635	11.5	12.0	8.3	345,000	336,000	113,953	120	113	130	414,000	380,000	148,000
Mississippi	9,000	5,000	394	12.0	14.0	11.9	108,000	70,000	4,670	100	116	121	108,000	81,000	6,000
Texas	700,000	700,000	326,176	9.4	15.0	7.8	6,580,000	10,500,000	2,560,891	100	98	118	6,580,000	10,290,000	3,022,000
Oklahoma	1,122,000	1,567,000	1,169,420	8.0	16.3	12.0	8,976,000	25,542,000	14,008,334	92	87	101	8,258,000	22,222,000	14,148,000

Arkansas	96,000	87,000	60,426	10.5	13.9	8.7	1,008,000	1,209,000	526,414	90	94	110	907,000	1,136,000	579,000
Montana	429,000	350,000	258,377	28.7	22.0	24.2	12,299,000	7,700,000	6,251,945	77	86	87	9,470,000	6,622,000	5,439,000
Wyoming	69,000	56,000	41,827	26.0	25.0	17.6	1,794,000	1,400,000	735,572	94	95	99	1,687,000	1,330,000	728,000
Colorado	438,000	403,000	340,729	18.9	22.3	21.2	8,274,000	8,994,000	7,224,057	84	82	93	6,950,000	7,376,000	6,718,000
New Mexico	55,000	41,000	32,341	22.9	20.0	15.5	1,262,000	820,000	499,799	100	100	117	1,262,000	820,000	585,000
Arizona	27,000	27,000	20,028	29.6	22.3	18.1	800,000	603,000	362,875	95	120	139	760,000	724,000	504,000
Utah	225,000	198,000	178,423	22.3	22.1	22.1	5,025,000	4,370,000	3,943,910	70	84	90	3,518,000	3,671,000	3,550,000
Nevada	36,000	30,000	13,961	28.3	26.5	27.9	1,018,000	795,000	389,905	95	109	104	968,000	866,000	406,000
Idaho	517,000	472,000	339,234	30.7	22.6	25.6	15,860,000	10,658,000	10,237,609	66	72	87	10,468,000	7,674,000	8,907,000
Washington	2,230,000	2,101,000	2,118,015	22.7	16.9	19.3	50,661,000	35,571,000	40,920,390	71	78	93	35,969,000	27,746,000	38,056,000
Oregon	796,000	717,000	763,187	21.0	22.1	16.3	16,726,000	15,853,000	12,456,751	75	84	93	12,545,000	13,317,000	11,585,000
California	480,000	550,000	478,217	18.0	18.0	13.0	8,640,000	9,900,000	6,203,206	88	94	111	7,603,000	9,306,000	6,886,000
United States	49,543,000	45,681,000	†44,261,003	12.5	13.9	15.4	621,338,000	635,121,000	†683,349,697	87.4	88.3	98.6	543,063,000	561,051,000	673,653,000

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* Acreage, yield and production of wheat in 1909 are Census figures.

† Includes 883 acres and 16,417 bushels in other states.

‡Statistics by counties, showing acreage, **average yield** and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 85, section 1, Acts of the Thirty-third General Assembly will be found in part 3 of this year book.

BARLEY

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
Maine	4,000	4,000	4,136	28.0	31.0	25.8	112,000	124,000	106,674	90	76	77	101,000	94,000	82,000
New Hampshire	1,000	1,000	848	24.0	26.0	24.5	24,000	26,000	20,764	86	77	80	21,000	20,000	17,000
Vermont	12,000	12,000	10,586	30.5	31.0	26.9	366,000	372,000	285,008	82	68	77	300,000	253,000	219,000
New York	80,000	81,000	79,956	25.0	28.3	24.0	2,000,000	2,292,000	1,922,868	97	70	69	1,940,000	1,604,000	1,327,000
Pennsylvania	7,000	8,000	7,625	25.0	26.5	17.9	175,000	212,000	136,239	65	63	67	114,000	134,000	91,000
Maryland	4,000	4,000	4,494	23.0	31.0	30.1	92,000	124,000	135,454	60	61	64	55,000	76,000	87,000
Virginia	10,000	10,000	9,890	23.0	29.3	25.6	230,000	293,000	253,649	70	67	71	161,000	196,000	180,000
Ohio	20,000	22,000	24,075	27.2	28.5	23.6	544,000	627,000	569,279	84	60	61	457,000	376,000	347,000
Indiana	9,000	10,000	10,188	26.5	27.0	23.0	238,000	270,000	234,298	75	56	63	178,000	151,000	148,000
Illinois	55,000	55,000	63,325	28.0	30.2	25.5	1,540,000	1,661,000	1,613,559	92	56	52	1,417,000	930,000	839,000
Michigan	90,000	93,000	93,065	24.0	26.0	22.9	2,160,000	2,418,000	2,132,101	86	58	61	1,858,000	1,402,000	1,301,000
Wisconsin	820,000	800,000	816,449	25.5	25.9	27.1	20,910,000	20,720,000	22,156,041	99	64	56	20,701,000	13,261,000	12,407,000
Minnesota	1,475,000	1,450,000	1,573,761	19.0	21.0	22.2	28,025,000	30,450,000	34,927,773	96	60	47	26,904,000	18,270,000	16,416,000
‡Iowa	500,000	525,000	571,224	21.9	29.5	19.2	10,950,000	15,488,000	10,964,184	93	56	46	10,184,000	8,673,000	5,044,000
Missouri	6,000	7,000	7,915	20.0	27.0	17.0	120,000	189,000	134,253	75	60	68	90,000	113,000	91,000
North Dakota	1,050,000	1,070,000	1,215,811	19.5	5.5	21.7	20,475,000	5,995,000	26,365,758	85	55	43	17,404,000	3,297,000	11,337,000
South Dakota	1,020,000	1,050,000	1,114,531	5.4	18.2	20.1	5,508,000	19,110,000	22,396,130	88	57	45	4,847,000	10,893,000	10,078,000
Nebraska	120,000	127,000	113,571	11.0	18.5	17.5	1,320,000	2,350,000	1,987,516	60	45	43	792,000	1,058,000	855,000
Kansas	250,000	260,000	166,115	6.5	18.0	13.4	1,625,000	4,680,000	2,221,816	60	45	53	975,000	2,106,000	1,178,000
Kentucky	3,000	3,000	2,738	28.7	24.0	24.0	86,000	72,000	65,596	79	65	76	68,000	47,000	50,000
Tennessee	3,000	3,000	2,567	28.0	23.0	20.7	84,000	69,000	53,201	90	80	79	76,000	55,000	42,000
Texas	5,000	5,000	3,888	18.0	30.0	13.5	90,000	150,000	52,438	93	90	100	84,000	135,000	52,000
Oklahoma	10,000	11,000	10,283	10.0	30.0	12.4	100,000	330,000	127,641	61	54	65	61,000	178,000	83,000
Montana	31,000	30,000	27,242	34.5	28.0	27.7	1,070,000	840,000	753,268	68	62	63	728,000	521,000	475,000
Wyoming	11,000	10,000	8,561	34.0	30.0	22.1	374,000	300,000	189,057	75	67	74	280,000	201,000	140,000
Colorado	74,000	75,000	71,411	29.0	32.0	26.5	2,146,000	2,400,000	1,889,342	69	60	66	1,481,000	1,440,000	1,247,000
New Mexico	2,000	2,000	2,131	33.0	25.0	20.4	66,000	50,000	43,490	70	80	100	46,000	40,000	43,000
Arizona	35,000	35,000	32,897	36.5	36.0	30.7	1,278,000	1,260,000	1,008,442	87	90	88	1,112,000	1,134,000	887,000
Utah	24,000	23,000	26,752	43.0	36.0	33.3	1,032,000	828,000	891,471	66	60	66	681,000	497,000	588,000
Nevada	12,000	12,000	11,522	40.0	40.0	23.8	480,000	480,000	389,275	81	70	75	389,000	336,000	292,000

Idaho	142,000	136,000	132,412	42.0	33.0	34.7	5,964,000	4,488,000	4,598,29[illegible]	70	50	59	4,175,000	2,244,000	2,713,000
Washington	176,000	176,000	171,888	37.0	29.0	33.9	6,512,000	5,104,000	5,834,615	68	57	64	4,428,000	2,909,000	3,734,000
Oregon	116,000	113,000	108,847	34.0	31.5	21.8	3,944,000	3,560,000	2,377,735	65	62	66	2,564,000	2,207,000	1,569,000
California	1,450,000	1,500,000	1,195,158	28.0	31.0	22.1	40,600,000	46.500,000	26,441,954	85	55	74	34,510,000	25,575,000	19,567,000
United States	7,627,000	7,743,000	†7,698,028	21.0	22.5	22.5	160,240,000	173,832,000	†173,321,338	86.9	57.8	54.0	139,182,000	100,426,000	93,526,000

* Census. † Includes 2,166 acres and 42,157 bushels in other States.

‡Statistics by counties, showing acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 83, section 1, Acts of the Thirty-third General Assembly will be found in part 3 of this year book.

RYE.

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
Vermont	1,000	1,000	1,115	22.5	17.5	15.6	22,000	18,000	16,689	95	85	100	21,000	15,000	17,000
Massachusetts	3,000	3,000	3,476	16.0	17.0	17.0	48,000	51,000	59,183	95	94	105	46,000	48,000	62,000
Connecticut	8,000	8,000	7,601	18.5	20.0	18.1	148,000	160,000	137,602	93	86	90	138,000	138,000	124,000
New York	135,000	140,000	130,540	16.7	18.3	15.4	2,254,000	2,562,000	2,010,601	89	74	80	2,006,000	1,896,000	1,608,006
New Jersey	72,000	74,000	69,032	16.4	18.0	13.8	1,181,000	1,332,000	951,271	83	77	79	980,000	1,026,000	752,000
Pennsylvania	285,000	288,000	272,560	15.1	17.0	12.8	4,304,000	4,896,000	3,496,603	80	73	80	3,443,000	3,574,000	2,797,000
Delaware	1,000	1,000	1,017	15.0	15.5	11.2	15,000	16,000	11,423	95	69	75	14,000	11,000	9,000
Maryland	28,000	29,000	28,103	14.5	16.1	12.7	406,000	467,000	357,752	86	75	78	349,000	350,000	279,000
Virginia	48,000	50,000	47,890	11.5	13.5	9.2	552,000	675,000	438,345	89	80	84	491,000	540,000	368,000
West Virginia	17,000	17,000	15,679	11.0	12.9	9.4	187,000	219,000	148,676	90	90	90	168,000	197,000	134,000
North Carolina	47,000	50,000	48,685	10.0	10.0	5.8	470,000	500,000	280,431	100	101	103	470,000	505,000	289,000
South Carolina	3,000	3,000	2,958	10.0	10.0	7.0	30,000	30,000	20,631	145	146	141	44,000	44,000	29,000
Georgia	12,000	12,000	12,352	9.5	10.4	4.9	114,000	125,000	59,937	138	140	150	157,000	175,000	90,000
Ohio	60,000	65,000	67,912	15.5	16.5	13.6	930,000	1,072,000	921,919	85	72	76	790,000	772,000	701,000
Indiana	73,000	80,000	83,440	13.7	15.8	13.4	1,000,000	1,264,000	1,121,589	80	68	74	800,000	860,000	830,000
Illinois	52,000	58,000	58,973	16.8	17.4	13.4	874,000	1,009,000	787,519	81	71	74	708,000	716,000	583,000
Michigan	400,000	418,000	419,020	14.6	15.3	13.9	5,840,000	6,395,000	5,814,394	85	68	69	4,964,000	4,349,000	4,012,000
Wisconsin	355,000	340,000	339,213	17.0	16.0	14.1	6,035,000	5,440,000	4,797,775	84	71	68	5,069,000	3,862,000	3,262,000
Minnesota	240,000	256,000	266,537	18.7	17.0	16.6	4,488,000	4,352,000	4,426,028	78	64	60	3,501,000	2,785,000	2,056,000
‡Iowa	30,000	35,000	42,042	18.0	18.5	13.6	540,000	648,000	570,996	77	64	63	416,000	415,000	360,000
Missouri	16,000	18,000	20,001	14.1	15.0	10.3	226,000	270,000	205,813	84	75	82	190,000	202,000	169,000
North Dakota	36,000	30,000	48,188	16.6	8.5	14.3	598,000	255,000	689,233	76	63	57	454,000	161,000	393,000
South Dakota	13,000	13,000	13,778	10.0	17.0	14.1	130,000	221,000	194,672	76	61	59	99,000	135,000	115,000
Nebraska	52,000	59,000	62,827	13.0	16.0	10.5	676,000	944,000	660,631	75	60	61	507,000	566,000	403,000
Kansas	18,000	20,000	17,179	11.0	14.0	9.3	198,000	280,000	160,415	81	73	75	160,000	204,000	120,000
Kentucky	22,000	25,000	26,813	12.0	13.0	9.5	264,000	325,000	255,532	94	85	88	248,000	276,000	225,000
Tennessee	19,000	22,000	22,798	11.9	11.0	6.2	226,000	242,000	140,925	99	92	96	224,000	223,000	135,000
Alabama	1,000	1,000	437	10.0	12.0	8.5	10,000	12,000	3,736	125	120	136	12,000	14,000	5,000
Texas	2,000	1,000	536	10.0	11.5	8.1	20,000	12,000	4,350	107	103	123	21,000	12,000	5,000
Oklahoma	4,000	4,000	4,291	9.5	13.7	8.7	38,000	55,000	37,240	104	81	93	40,000	45,000	35,000

Arkansas	1,000	1,000	1,080	10.0	12.0	6.8	10,000	12,000	7,354	90	98	105	9,000	12,000	8,000
Montana	8,000	6,000	6,034	23.0	20.0	18.4	184,000	120,000	111,214	72	68	75	132,000	82,000	83,000
Wyoming	2,000	1,000	1,516	20.0	18.5	13.5	40,000	18,000	20,479	90	81	90	36,000	15,000	18,000
Colorado	21,000	20,000	15,715	12.0	14.0	12.6	252,000	280,000	198,025	70	67	78	176,000	188,000	145,000
Utah	5,000	5,000	5,234	15.5	18.5	12.6	78,000	92,000	65,754	70	68	70	55,000	63,000	46,000
Idaho	3,000	3,000	3,295	22.5	20.0	12.2	68,000	60,000	40,241	67	66	70	46,000	40,000	28,000
Washington	8,000	6,000	5,450	22.0	20.5	9.3	176,000	123,000	50,746	80	89	94	141,000	109,000	48,000
Oregon	18,000	15,000	12,913	19.5	15.1	11.1	351,000	226,000	147,024	90	100	100	316,000	226,000	147,000
California	8,000	7,000	7,027	17.0	17.0	10.1	136,000	119,000	70,683	85	86	104	116,000	102,000	74,000
United States	2,127,000	2,185,000	†2,195,561	15.6	16.0	13.4	33,119,000	34,897,000	†29,520,457	83.2	71.5	71.8	27,557,000	24,953,000	21,164,000

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* Census. † Includes 2,271 acres and 26,936 bushels in other States.

‡Statistics by counties, showing acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 85, section 1, Acts of the Thirty-third General Assembly will be found in part 3 of this year book.

BUCKWHEAT.

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909	1911	1910	1909	1911	1910	1909	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
Maine	15,000	16,000	15,552	30.0	32.5	20.4	450,000	520,000	316,782	70	68	70	315,000	354,000	222,000
New Hampshire	1,000	1,000	1,052	27.8	31.0	25.0	27,000	31,000	26,312	81	62	76	22,000	19,000	20,000
Vermont	8,000	8,000	7,659	24.3	24.0	22.8	194,000	192,000	174,394	85	70	76	165,000	134,000	133,000
Massachusetts	2,000	2,000	1,630	21.0	22.0	20.2	42,000	44,000	32,926	89	85	75	37,000	37,000	25,000
Connecticut	3,000	3,000	2,797	19.0	19.5	18.5	57,000	58,000	51,751	95	83	100	54,000	48,000	52,000
New York	280,000	286,000	286,276	21.3	23.0	19.9	5,964,000	6,578,000	5,691,745	73	65	69	4,354,000	4,276,000	3,927,000
New Jersey	13,000	13,000	13,155	20.0	21.5	16.2	260,000	280,000	212,548	75	69	74	195,000	193,000	157,000
Pennsylvania	291,000	293,000	292,728	21.9	19.5	16.4	6,373,000	5,714,000	4,797,350	69	62	68	4,397,000	3,543,000	3,262,000
Delaware	4,000	4,000	4,002	19.0	20.5	13.4	76,000	82,000	53,903	65	65	60	49,000	53,000	32,000
Maryland	12,000	11,000	10,388	20.0	18.5	14.7	240,000	204,000	152,216	67	66	74	161,000	135,000	113,000
Virginia	24,000	25,000	25,481	16.0	18.0	13.0	384,000	450,000	332,222	70	77	76	269,000	346,000	252,000
West Virginia	36,000	38,000	33,323	24.0	23.0	16.0	864,000	874,000	533,670	85	77	76	734,000	673,000	406,000
North Carolina	10,000	11,000	11,606	19.0	19.0	12.4	190,000	209,000	144,183	80	80	80	152,000	167,000	115,000
Ohio	19,000	23,000	26,073	21.0	18.0	18.5	399,000	414,000	483,410	78	75	78	311,000	310,000	377,000
Indiana	5,000	6,000	6,995	18.3	17.7	12.2	92,000	106,000	84,991	74	70	77	68,000	74,000	65,000
Illinois	4,000	5,000	4,696	18.1	20.0	14.5	72,000	100,000	68,125	95	90	80	68,000	90,000	54,000
Michigan	67,000	72,000	75,909	18.0	15.3	12.6	1,203,000	1,102,000	958,119	71	62	66	856,000	683,000	632,000
Wisconsin	18,000	20,000	26,298	17.5	14.0	11.5	315,000	280,000	302,829	75	75	78	236,000	210,000	236,000
Minnesota	7,000	8,000	10,309	18.0	16.0	14.1	126,000	128,000	144,861	76	72	71	96,000	92,000	103,000
‡Iowa	7,000	8,000	9,066	17.5	14.9	13.3	122,000	119,000	120,559	90	83	85	110,000	99,000	102,000
Missouri	2,000	2,000	1,676	10.0	16.5	12.1	20,000	33,000	20,289	105	87	90	21,000	29,000	18,000
Nebraska	1,000	1,000	1,205	16.0	20.0	8.2	16,000	20,000	9,876	95	90	90	15,000	18,000	9,000
Kansas	1,000	1,000	736	12.0	15.0	10.7	12,000	15,000	8,114	98	90	100	12,000	18,000	8,000
Tennessee	3,000	3,000	2,867	16.0	15.0	11.6	48.000	45,000	33,249	79	86	79	38,000	39,000	26,000
United States	833,000	860,000	†878,048	21.1	20.5	16.9	17,549,000	17,598,000	†14,849,332	72.6	66.1	70.1	12,735,000	11,636,000	10,346,000

* Census. † Includes 6,549 acres and 94,905 bushels in other States.

‡Statistics by counties, showing acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 83, section 1, Acts of the Thirty-third General Assembly will be found in part 3 of this year book.

OATS.

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
Maine	135,000	130,000	120,991	38.5	42.4	35.0	5,198,000	5,512,000	4,232,309	54	48	58	2,807,000	2,646,000	2,455,000
New Hampshire	12,000	11,000	10,860	33.8	42.8	35.6	406,000	471,000	386,419	61	51	64	248,000	240,000	247,000
Vermont	76,000	76,000	71,510	35.0	41.5	19.9	2,660,000	3,154,000	2,141,357	59	50	50	1,569,000	1,577,000	1,071,000
Massachusetts	8,000	8,000	8,127	35.0	35.5	33.0	280,000	284,000	268,500	58	50	58	162,000	142,000	156,000
Rhode Island	2,000	2,000	1,726	29.0	35.0	27.9	58,000	70,000	48,912	58	49	53	34,000	34,000	26,000
Connecticut	11,000	11,000	10,207	35.1	36.8	26.8	386,000	405,000	273,804	56	44	53	216,000	178,000	145,000
New York	1,310,000	1,320,000	1,302,508	29.5	34.5	26.7	38,645,000	45,540,000	34,795,277	51	42	49	19,709,000	19,127,000	17,050,000
New Jersey	71,000	72,000	72,130	28.5	37.1	19.1	2,024,000	2,671,000	1,376,752	50	44	50	1,012,000	1,175,000	688,000
Pennsylvania	1,121,000	1,144,000	1,144,218	28.3	35.2	24.6	31,724,000	40,269,000	28,172,686	50	41	50	15,862,000	16,510,000	14,086,000
Delaware	4,000	4,000	4,226	30.0	33.8	23.2	120,000	135,000	98,239	47	43	48	56,000	58,000	47,000
Maryland	46,000	47,000	49,223	27.0	30.0	23.6	1,242,000	1,410,000	1,131,038	49	46	45	609,000	649,000	509,000
Virginia	194,000	198,000	204,455	20.0	22.0	14.1	3,880,000	4,356,000	2,884,495	54	49	54	2,095,000	2,134,000	1,558,000
West Virginia	110,000	110,000	103,758	22.0	25.2	16.7	2,420,000	2,772,000	1,728,806	56	50	54	1,355,000	1,386,000	934,000
North Carolina	219,000	221,000	228,120	16.5	18.2	12.2	3,614,000	4,022,000	2,782,508	63	60	66	2,277,000	2,413,000	1,836,000
South Carolina	345,000	336,000	324,180	20.4	21.0	17.7	7,038,000	7,056,000	5,745,291	72	65	72	5,067,000	4,586,000	4,137,000
Georgia	404,000	404,000	411,664	21.5	18.2	15.1	8,686,000	7,353,000	6,199,243	70	64	71	6,080,000	4,706,000	4,401,000
Florida	43,000	42,000	43,206	13.5	16.2	14.0	580,000	680,000	606,380	75	65	75	435,000	442,000	455,000
Ohio	1,700,000	1,770,000	1,787,496	32.1	37.2	32.3	54,570,000	65,844,000	57,591,046	45	35	41	24,556,000	23,045,000	23,612,000
Indiana	1,640,000	1,680,000	1,667,818	28.7	35.4	30.3	47,068,000	59,472,000	50,607,913	43	31	39	20,239,000	18,436,000	19,737,000
Illinois	4,220,000	4,325,000	4,176,485	28.8	38.0	36.1	121,536,000	164,350,000	150,386,074	42	30	38	51,045,000	49,305,000	57,147,000
Michigan	1,500,000	1,515,000	1,429,076	28.6	34.0	30.7	42,900,000	51,510,000	43,869,502	46	35	41	19,734,000	18,028,000	17,986,000
Wisconsin	2,250,000	2,250,000	2,164,146	29.8	29.8	32.9	67,050,000	67,050,000	71,335,505	45	34	39	30,172,000	22,797,000	27,821,000
Minnesota	2,948,000	2,977,000	2,977,258	22.8	28.7	31.5	67,214,000	85,440,000	93,897,717	40	32	35	26,886,000	27,341,000	32,864,000
†Iowa	4,950,000	5,106,000	4,655,154	25.5	37.8	27.6	126,225,000	192,780,000	128,198,055	41	27	35	51,752,000	52,051,000	44,869,000
Missouri	1,200,000	1,200,000	1,073,325	14.8	33.6	23.1	17,760,000	40,320,000	24,828,501	45	32	43	7,992,000	12,902,000	10,676,000
North Dakota	2,180,000	2,165,000	2,147,032	23.5	7.0	30.7	51,230,000	15,155,000	65,886,702	41	37	33	21,004,000	5,607,000	21,743,000
South Dakota	1,540,000	1,550,000	1,558,643	7.4	23.0	27.9	11,396,000	35,650,000	43,565,676	43	30	34	4,900,000	10,695,000	14,812,000
Nebraska	2,500,000	2,532,000	2,365,774	13.9	28.0	22.6	34,750,000	70,896,000	53,360,185	43	28	35	14,942,000	19,851,000	18,676,000
Kansas	2,000,000	1,675,000	933,309	15.0	33.3	24.6	30,000,000	55,778,000	22,923,641	45	34	43	13,500,000	18,965,000	9,857,000
Kentucky	170,000	175,000	174,315	18.4	25.0	13.8	3,128,000	4,375,000	2,406,064	50	45	51	1,564,000	1,969,000	1,227,000

OATS—CONTINUED.

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909	1911	1910	1909	1911	1910	1909	1911	1910	1909	1911	1910	1909
Tennessee	315,000	342,000	342,086	19.5	23.0	13.8	6,142,000	7,866,000	4,720,692	50	46	53	3,071,000	3,618,000	2,502,000
Alabama	283,000	283,000	257,276	19.2	18.5	12.6	5,434,000	5,236,000	3,251,146	66	60	70	3,586,000	3,142,000	2,276,000
Mississippi	130,000	120,000	97,085	18.4	19.2	13.1	2,392,000	2,304,000	1,268,785	65	55	68	1,555,000	1,267,000	863,000
Louisiana	40,000	36,000	29,711	21.0	21.5	14.1	840,000	774,000	420,033	65	49	62	546,000	379,000	260,000
Texas	737,000	688,000	440,001	25.1	35.0	16.0	18,499,000	24,080,000	7,034,617	54	47	62	9,989,000	11,318,000	4,661,000
Oklahoma	909,000	699,000	609,373	9.0	36.5	27.3	8,181,000	25,514,000	16,606,154	48	37	46	3,927,000	9,440,000	7,639,000
Arkansas	205,000	207,000	197,449	20.0	27.5	16.3	4,100,000	5,692,000	3,212,891	53	46	59	2,173,000	2,618,000	1,896,000
Montana	425,000	390,000	333,195	49.8	38.0	41.4	21,165,000	14,820,000	13,805,735	40	46	42	8,466,000	6,817,000	5,798,000
Wyoming	190,000	161,000	124,035	34.5	32.0	27.1	6,555,000	5,152,000	3,361,425	50	50	50	3,278,000	2,576,000	1,681,000
Colorado	290,000	284,000	275,948	35.0	39.1	27.7	10,150,000	11,104,000	7,642,855	48	46	53	4,872,000	5,108,000	4,051,000
New Mexico	48,000	42,000	33,707	38.8	27.4	21.4	1,862,000	1,151,000	720,560	57	62	66	1,061,000	714,000	476,000
Arizona	6,000	5,000	5,867	42.0	40.1	32.3	252,000	200,000	189,312	60	90	79	151,000	180,000	150,000
Utah	87,000	85,000	80,816	44.7	43.0	39.9	3,889,000	3,655,000	3,221,289	47	48	52	1,828,000	1,754,000	1,675,000
Nevada	8,000	7,000	7,853	45.0	44.7	42.7	360,000	313,000	334,973	62	63	59	223,000	197,000	198,000
Idaho	331,000	319,000	302,783	44.0	38.5	37.4	14,564,000	12,282,000	11,328,106	40	42	50	5,826,000	5,158,000	5,664,000
Washington	281,000	275,000	269,742	51.7	42.8	49.0	14,528,000	11,770,000	13,228,003	45	48	48	6,538,000	5,650,000	6,349,000
Oregon	359,000	355,000	339,162	34.7	34.5	32.1	12,457,000	12,248,000	10,881,286	44	47	52	5,481,000	5,757,000	5,658,000
California	210,000	200,000	192,158	34.0	37.0	21.6	7,140,000	7,400,000	4,143,688	59	50	66	4,213,000	3,700,000	2,735,000
United States	37,763,000	37,548,000	35,159,217	24.4	31.6	28.6	922,298,000	1,186,341,000	1,007,129,447	45.0	34.4	40.2	414,663,000	408,388,000	405,120,000

* Census.

†Statistics by counties, showing acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, section 1, Acts of the Thirty-third General Assembly will be found in part 3 of this year book.

FLAXSEED.

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909*	1911	1910	1909*	1911	1910	1909*	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels.	Bushels.	Bushels.	Cts	Cts	Cts	Dollars	Dollars	Dollars
Wisconsin	10,000	10,000	9,423	12.0	10.0	12.6	120,000	100,000	118,793	185	220	135	222,000	220,000	160,000
Minnesota	400,000	377,000	358,426	8.0	7.5	9.1	3,200,000	2,828,000	3,277,238	182	230	150	5,824,000	6,504,000	4,916,000
‡Iowa	16,000	14,000	15,549	8.0	12.2	9.1	128,000	171,000	140,906	185	220	130	237,000	376,000	183,000
Missouri	18,000	18,000	20,630	3.0	8.4	7.5	54,000	151,000	154,532	190	210	115	103,000	317,000	178,000
North Dakota	1,200,000	1,117,000	1,008,049	7.6	3.6	9.6	9,120,000	4,021,000	10,245,684	184	235	157	16,781,000	9,449,000	16,086,000
South Dakota	607,000	570,000	518,566	5.3	5.0	9.2	3,217,000	2,850,000	4,759,794	178	229	151	5,726,000	6,526,000	7,187,000
Nebraska	2,000	2,000	2,934	5.0	8.0	7.0	10,000	16,000	20,647	185	225	122	18,000	36,000	25,000
Kansas	75,000	55,000	45,014	3.0	8.2	6.7	225,000	451,000	302,491	190	210	110	428,000	947,000	333,000
Oklahoma	1,000	1,000	1,036	3.0	9.0	8.8	3,000	9,000	9,093	180	112	120	5,000	10,000	11,000
Montana	425,000	300,000	37,647	7.7	7.0	11.9	3,272,000	2,100,000	447,484	180	240	160	5,890,000	5,040,000	716,000
Colorado	3,000	3,000	2,887	7.0	7.0	4.7	21,000	21,000	13,462	180	225	-----	38,000	47,000	------------
United States	2,757,000	2,467,000	†2,083,142	7.0	5.2	9.4	19,370,000	12,718,000	†19,512,764	182.1	231.7	152.9	35,272,000	29,472,000	29,795,000

* Census. † Includes 2,981 acres and 22,640 bushels in other States.

‡ Statistics by counties, showing acreage, average yield and total yield **of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, section 1, Acts of the Thirty-third General Assembly** will be found in part 3 of this year book.

POTATOES.

State or Territory	Acreage			Yield per acre			Production			Price per bushel Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909	1911	1910	1909	1911	1910	1909	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Bu.	Bu.	Bu.	Bushels	Bushels	Bushels	Cts	Cts	Cts	Dollars	Dollars	Dollars
Maine	118,000	133,000	135,799	180	220	210	21,240,000	29,260,000	28,556,837	77	42	47	16,355,000	12,289,000	13,422,000
New Hampshire	17,000	17,000	17,370	125	150	136	2,125,000	2,550,000	2,360,241	87	52	64	1,849,000	1,326,000	1,511,000
Vermont	26,000	26,000	26,859	105	130	154	2,730,000	3,380,000	4,145,630	79	45	44	2,157,000	1,521,000	1,824,000
Massachusetts	25,000	25,000	24,459	93	125	120	2,325,000	3,125,000	2,946,178	96	70	79	2,232,000	2,188,000	2,327,000
Rhode Island	5,000	5,000	4,649	110	136	119	550,000	680,000	552,677	106	69	80	583,000	469,000	442,000
Connecticut	23,000	23,000	23,959	85	125	112	1,955,000	2,875,000	2,684,414	105	70	83	2,053,000	2,012,000	2,228,000
New York	375,000	395,000	394,319	74	102	123	27,750,000	40,290,000	48,597,701	90	48	50	24,975,000	19,339,000	24,299,000
New Jersey	84,000	87,000	72,991	73	105	110	6,132,000	9,135,000	8,057,424	105	65	82	6,439,000	5,938,000	6,607,000
Pennsylvania	270,000	275,000	262,013	56	88	83	15,120,000	24,200,000	21,740,611	93	52	65	14,062,000	12,584,000	14,131,000
Delaware	11,000	11,000	9,703	60	103	91	660,000	1,133,000	880,360	96	60	72	634,000	680,000	634,000
Maryland	39,000	40,000	39,525	45	95	88	1,755,000	3,800,000	3,476,339	91	54	60	1,597,000	2,052,000	2,294,000
Virginia	95,000	97,000	86,927	45	98	101	4,275,000	9,506,000	8,770,778	96	58	70	4,104,000	5,513,000	6,140,000
West Virginia	44,000	45,000	42,621	45	92	96	1,980,000	4,140,000	4,077,066	104	67	68	2,059,000	2,774,000	2,772,000
North Carolina	31,000	33,000	31,990	48	89	74	1,488,000	2,937,000	2,372,260	108	73	81	1,607,000	2,144,000	1,922,000
South Carolina	10,000	10,000	8,610	70	90	91	700,000	900,000	782,430	122	105	115	854,000	945,000	900,000
Georgia	12,000	12,000	11,877	72	82	75	864,000	984,000	886,430	110	105	100	950,000	1,033,000	886,000
Florida	10,000	10,000	8,509	90	90	101	900,000	900,000	856,967	145	100	120	1,305,000	900,000	1,028,000
Ohio	190,000	210,000	212,808	65	82	95	12,350,000	17,220,000	20,322,984	84	51	56	10,374,000	8,782,000	11,381,000
Indiana	89,000	97,000	99,504	58	84	90	5,162,000	8,148,000	8,905,679	87	50	52	4,491,000	4,074,000	4,631,000
Illinois	138,000	146,000	138,052	50	75	88	6,900,000	10,950,000	12,166,091	90	59	61	6,210,000	6,460,000	7,421,000
Michigan	330,000	350,000	365,483	94	105	105	31,020,000	36,750,000	38,243,828	71	31	35	22,024,000	11,392,000	13,385,000
Wisconsin	280,000	280,000	290,185	116	95	110	32,480,000	26,600,000	31,968,195	62	38	38	20,138,000	10,108,000	12,148,000
Minnesota	225,000	220,000	223,692	115	61	120	25,875,000	13,420,000	26,802,948	58	64	35	15,008,000	8,589,000	9,381,000
†Iowa	174,000	172,000	169,567	74	72	87	12,876,000	12,384,000	14,710,247	73	60	55	9,399,000	7,430,000	8,091,000
Missouri	95,000	100,000	96,259	27	86	81	2,565,000	8,600,000	7,796,410	102	68	67	2,616,000	5,848,000	5,224,000
North Dakota	42,000	40,000	54,067	120	41	103	5,040,000	1,640,000	5,551,430	55	91	45	2,772,000	1,492,000	2,498,000
South Dakota	56,000	55,000	50,052	72	44	69	4,032,000	2,420,000	3,441,692	70	85	63	2,822,000	2,057,000	2,168,000
Nebraska	116,000	115,000	111,151	52	60	73	6,032,000	6,900,000	8,117,775	92	84	60	5,549,000	5,796,000	4,871,000
Kansas	80,000	82,000	79,025	22	57	71	1,760,000	4,674,000	5,647,049	106	90	[illegible]	1,866,000	4,207,000	4,461,000
Kentucky	52,000	57,000	55,750	39	92	92	2,028,000	5,241,000	5,120,141	107	62	61	2,170,000	3,251,000	3,277,000

Tennessee	38,000	40,000	40,963	41	80	71	1,558,000	3,200,000	2,922,713	108	65	71	1,683,000	2,080,000	2,075,000
Alabama	15,000	15,000	14,186	78	80	78	1,170,000	1,200,000	1,128,561	118	91	98	1,381,000	1,128,000	1,106,000
Mississippi	9,000	9,000	8,342	83	85	77	747,000	765,000	644,742	115	94	95	859,000	719,000	613,000
Louisiana	22,000	25,000	19,655	69	55	60	1,518,000	1,375,000	1,183,525	100	90	91	1,518,000	1,238,000	1,077,000
Texas	50,000	54,000	36,092	57	51	62	2,850,000	2,754,000	2,235,983	126	110	106	3,591,000	3,029,000	2,370,000
Oklahoma	30,000	32,000	32,295	18	60	59	540,000	1,920,000	1,897,486	124	100	95	670,000	1,920,000	1,803,000
Arkansas	26,000	30,000	29,719	55	84	71	1,430,000	2,520,000	2,096,893	115	85	92	1,644,000	2,142,000	1,929,000
Montana	27,000	22,000	20,710	150	120	156	4,050,000	2,640,000	3,240,696	74	85	51	2,997,000	2,244,000	1,653,000
Wyoming	10,000	9,000	8,333	42	100	112	420,000	900,000	932,102	140	82	63	588,000	738,000	587,000
Colorado	90,000	86,000	85,839	35	100	137	3,150,000	8,600,000	11,780,674	99	55	57	3,118,000	4,730,000	6,715,000
New Mexico	10,000	13,000	6,230	80	47	47	800,000	611,000	295,255	100	104	101	800,000	635,000	298,000
Arizona	1,000	1,000	1,151	95	92	84	95,000	92,000	97,141	140	126	130	133,000	116,000	126,000
Utah	15,000	14,000	14,210	140	142	170	2,100,000	1,988,000	2,409,093	87	59	43	1,785,000	1,173,000	1,036,000
Nevada	8,000	6,000	4,864	160	150	158	1,280,000	900,000	766,820	93	80	85	1,190,000	720,000	652,000
Idaho	29,000	28,000	28,341	180	142	166	5,220,000	3,976,000	4,710,262	67	65	48	3,393,000	2,584,000	2,261,000
Washington	59,000	56,000	57,897	160	131	13	9,440,000	7,336,000	7,667,171	68	73	47	6,419,000	5,355,000	3,604,000
Oregon	46,000	42,000	44,265	130	105	109	5,980,000	4,410,000	4,822,962	67	70	60	4,007,000	3,087,000	2,894,000
California	72,000	70,000	67,688	135	130	145	9,720,000	9,100,000	9,824,007	90	85	77	8,748,000	7,735,000	7,564,000
United States	3,619,000	3,720,000	3,668,855	80.9	93.8	106.1	292,737,000	349,032,000	389,194,965	79.9	85.7	54.1	233,778,000	194,566,000	210,667,000

* Census.

†Statistics by counties, showing acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, section 1, Acts of the Thirty-third General Assembly will be found in part 3 of this year book.

HAY.

[Readjustment to Thirteenth Census basis deferred, pending final Census report.]

State or Territory	Acreage			Yield per acre			Production			Price per ton Dec. 1			Total farm value on basis of price Dec. 1—		
	1911	1910	1909	1911	1910	1909	1911	1910	1909	1911	1910	1909	1911	1910	1909
	Acres	Acres	Acres	Tns	Tns	Tns	Tons.	Tons.	Tons.	$	$	$	$	$	$
Maine	1,400,000	1,400,000		1.10	1.25		1,540,000	1,750,000		14.40	12.80		22,176,000	22,400,000	
New Hampshire	640,000	640,000		1.05	1.20		672,000	768,000		17.20	15.80		11,558,000	12,134,000	
Vermont	930,000	930,000		1.30	1.35		1,209,000	1,256,000		14.00	12.40		16,926,000	15,574,000	
Massachusetts	584,000	590,000		1.08	1.28		631,000	755,000		23.00	19.10		14,513,000	14,420,000	
Rhode Island	61,000	63,000		1.00	1.18		61,000	74,000		24.10	19.60		1,470,000	1,450,000	
Connecticut	490,000	490,000		1.10	1.35		539,000	662,000		23.50	19.00		12,666,000	12,578,000	
New York	4,763,000	4,811,000		1.02	1.32		4,858,000	6,351,000		17.90	13.70		86,958,000	87,009,000	
New Jersey	428,000	437,000		1.05	1.50		449,000	656,000		22.00	18.20		9,878,000	11,939,000	
Pennsylvania	3,148,000	3,212,000		1.00	1.38		3,148,000	4,433,000		20.00	15.00		62,960,000	66,495,000	
Delaware	72,000	77,000		.88	1.43		63,000	110,000		22.50	14.80		1,418,000	1,628,000	
Maryland	276,000	291,000		.72	1.35		199,000	393,000		22.40	15.40		4,458,000	6,052,000	
Virginia	437,000	475,000		.64	1.19		280,000	565,000		20.50	14.50		5,740,000	8,192,000	
West Virginia	648,000	675,000		.66	1.20		428,000	810,000		20.00	15.00		8,560,000	12,150,000	
North Carolina	161,000	175,000		1.05	1.50		169,000	262,000		17.00	14.60		2,873,000	3,825,000	
South Carolina	64,000	67,000		1.08	1.25		69,000	84,000		17.00	16.00		1,173,000	1,344,000	
Georgia	87,000	87,000		1.35	1.40		117,000	122,000		17.00	16.40		1,989,000	2,001,000	
Florida	18,000	19,000		1.30	1.33		23,000	25,000		18.50	17.00		426,000	425,000	
Ohio	2,556,000	2,840,000		.98	1.39		2,505,000	3,948,000		18.90	12.50		47,344,000	49,350,000	
Indiana	1,848,000	2,100,000		.94	1.30		1,737,000	2,730,000		16.80	11.90		29,182,000	32,487,000	
Illinois	2,376,000	2,795,000		.82	1.33		1,948,000	3,717,000		17.00	12.00		33,116,000	44,604,000	
Michigan	2,411,000	2,592,000		1.16	1.30		2,797,000	3,370,000		17.00	13.60		47,549,000	45,832,000	
Wisconsin	2,079,000	2,260,000		1.20	1.00		2,495,000	2,260,000		15.60	15.10		38,922,000	34,126,000	
Minnesota	799,000	908,000		1.00	1.00		799,000	908,000		11.90	9.10		9,508,000	8,263,000	
*Iowa	3,240,000	3,600,000		.80	1.05		2,592,000	3,780,000		12.50	9.60		32,400,000	36,288,000	
Missouri	2,430,000	2,700,000		.60	1.30		1,458,000	3,510,000		13.30	9.20		19,391,000	32,292,000	

North Dakota	192,000	188,000		1.10	.55		211,000	103,000		7.00	7.60		1,477,000	783,000	
South Dakota	459,000	510,000		.55	.80		252,000	408,000		8.50	7.10		2,142,000	2,897,000	
Nebraska	1,350,000	1,500,000		.85	1.00		1,148,000	1,500,000		9.70	8.90		11,136,000	13,350,000	
Kansas	1,619,000	1,792,000		.85	1.15		1,402,000	2,061,000		9.90	7.80		13,880,000	16,076,000	
Kentucky	450,000	500,000		.95	1.29		428,000	645,000		17.30	13.10		7,404,000	8,450,000	
Tennessee	400,000	455,000		1.00	1.40		400,000	637,000		16.70	13.40		6,680,000	8,536,000	
Alabama	120,000	120,000		1.40	1.43		168,000	172,000		12.80	13.20		2,150,000	2,270,000	
Mississippi	100,000	100,000		1.50	1.42		150,000	142,000		11.00	12.20		1,650,000	1,732,000	
Louisiana	24,000	25,000		1.30	1.75		31,000	44,000		12.00	11.50		372,000	506,000	
Texas	606,000	618,000		1.00	1.15		606,000	711,000		11.90	12.00		7,211,000	8,532,000	
Oklahoma	810,000	900,000		.80	1.05		648,000	945,000		8.00	8.40		5,184,000	7,938,000	
Arkansas	200,000	210,000		1.15	1.35		230,000	284,000		13.00	11.00		2,990,000	3,124,000	
Montana	612,000	600,000		2.00	1.40		1,224,000	840,000		10.00	12.50		12,240,000	10,500,000	
Wyoming	330,000	300,000		2.10	2.40		693,000	720,000		10.30	12.50		7,138,000	9,000,000	
Colorado	707,000	700,000		2.00	2.00		1,414,000	1,400,000		9.30	10.80		13,150,000	15,120,000	
New Mexico	221,000	194,000		2.60	2.10		575,000	407,000		13.00	11.50		7,475,000	4,680,000	
Arizona	130,000	116,000		3.86	2.10		502,000	244,000		12.00	13.00		6,024,000	3,172,000	
Utah	380,000	380,000		2.50	3.00		950,000	1,140,000		9.00	9.00		8,550,000	10,260,000	
Nevada	254,000	231,000		3.40	3.40		864,000	785,000		9.50	10.80		8,208,000	8,478,000	
Idaho	525,000	491,000		3.10	3.00		1,628,000	1,473,000		7.60	9.00		12,373,000	13,257,000	
Washington	400,000	388,000		2.40	2.10		960,000	815,000		12.00	15.70		11,520,000	12,796,000	
Oregon	452,000	439,000		2.10	2.10		949,000	922,000		9.60	12.10		9,110,000	11,156,000	
California	700,000	700,000		1.75	1.83		1,225,000	1,281,000		10.90	9.60		13,352,000	12,298,000	
United States	43,017,000	45,691,000		1.10	1.33		47,444,000	60,978,000		14.64	12.26		694,570,000	747,769,000	

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* Statistics by counties, showing acreage, average yield and total yield of Iowa farm crops, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, Section 1, Acts of the Thirty-third General Assembly, will be found in part 3 of this year book.

ESTIMATED NUMBER, AVERAGE PRICE, AND TOTAL VALUE OF FARM ANIMALS IN UNITED STATES JANUARY 1, 1912, WITH COMPARISONS.

Figures taken from **February** Number United States Crop Reporter.

HORSES.

State, Territory or Division	Number on Farms and Ranges					Value Jan. 1							
	Apr. 15, 1910 (Census)	Jan. 1, 1911		Jan. 1, 1912		Per Head						Aggregate	
		Per cent.	Total	Per cent.	Total	1880-1889 Average	1890-1899 Average	1900-1909 Average	1910	1911	1912	1911	1912
Maine	107,574	101	109,000	100	109,000	$79.59	$67.62	$86.47	$125.00	$124.00	$127.00	$13,516,000	$13,843,000
New Hampshire	46,229	100	46,000	100	46,000	76.30	63.30	82.04	106.00	118.00	126.00	5,428,000	5,796,000
Vermont	80,781	101	82,000	102	84,000	75.32	58.53	82.98	106.00	121.00	121.00	9,922,000	10,164,000
Massachusetts	64,283	100	64,000	100	64,000	98.88	83.71	98.62	128.00	148.00	144.00	9,472,000	9,216,000
Rhode Island	9,547	100	10,000	100	10,000	100.26	90.59	102.31	129.00	148.00	150.00	1,480,000	1,500,000
Connecticut	46,341	102	47,000	100	47,000	86.42	82.94	96.85	126.00	142.00	131.00	6,674,000	6,157,000
New York	591,008	101	597,000	102	609,000	89.70	70.47	93.74	125.00	131.00	133.00	78,207,000	80,997,000
New Jersey	88,922	102	91,000	100	91,000	98.90	80.80	101.62	134.00	142.00	143.00	12,922,000	13,013,000
Pennsylvania	549,756	103	566,000	101	572,000	87.48	65.38	91.91	132.00	137.00	130.00	77,542,000	74,360,000
N. Atlantic	1,584,441	101.7	1,612,000	101.2	1,632,000	88.11	69.08	92.53	126.46	133.48	131.77	215,163,000	215,046,000
Delaware	33,065	103	34,000	101	34,000	88.66	63.91	82.55	106.00	108.00	108.00	3,672,000	3,672,000
Maryland	156,002	103	161,000	101	163,000	77.97	59.86	78.51	108.00	110.00	112.00	17,710,000	18,256,000
Virginia	330,424	103	340,000	100	340,000	67.62	54.06	75.21	107.00	110.00	109.00	37,400,000	37,060,000
West Virginia	179,991	101	182,000	100	182,000	61.65	48.03	75.18	112.00	117.00	113.00	21,294,000	20,566,000
North Carolina	166,151	101	168,000	103	173,000	71.99	62.96	85.50	121.00	126.00	126.00	21,168,000	21,798,000
South Carolina	79,847	100	80,000	102	82,000	86.34	71.36	92.67	127.00	138.00	135.00	11,040,600	11,070,000
Georgia	120,067	102	122,000	102	124,000	78.62	64.67	91.70	125.00	130.00	132.00	15,860,000	16,368,000
Florida	45,640	107	49,000	107	52,000	76.56	58.00	77.94	109.00	113.00	106.00	5,537,000	5,512,000
S. Atlantic	1,111,187	102.3	1,136,000	101.2	1,150,000	72.55	58.04	80.73	113.86	117.68	116.78	133,681,000	134,302,000
Ohio	910,224	100	910,000	99	901,000	74.79	55.99	88.45	129.00	133.00	126.00	121,030,000	113,526,000
Indiana	813,644	102	830,000	101	838,000	70.8	53.24	84.14	122.00	128.00	118.00	106,240,000	98,884,000
Illinois	1,452,887	102	1,482,000	101	1,497,000	70.45	49.25	84.46	124.00	123.00	115.00	182,286,000	172,155,000
Michigan	610,033	102	622,000	102	634,000	82.30	61.96	87.90	126.00	129.00	131.00	80,238,000	83,054,000
Wisconsin	614,654	102	627,000	104	652,000	74.11	57.47	87.52	121.00	122.00	124.00	76,494,000	80,848,000
N.C.E.Miss.R.	4,401,442	101.6	4,471,000	101.1	4,522,000	73.45	54.15	86.15	124.55	126.66	121.29	566,288,000	548,467,000

Minnesota	753,184	104	783,000	103	806,000	76.98	[illegible].99	79.11	111.00	120.00	116.00	93,960,000	93,496,000
†Iowa	1,492,226	103	1,537,000	102	1,568,000	69.82	[illegible]7.48	77.96	120.00	121.00	113.00	185,977,000	177,184,000
Missouri	1,073,387	101	1,084,000	101	1,095,000	55.30	[illegible].45	68.12	103.00	109.00	102.00	118,156,000	111,690,000
North Dakota	650,599	103	671,000	103	691,000	----------	52.72	75.91	114.00	110.00	114.00	73,810,000	78,774,000
South Dakota	639,362	104	696,000	97	675,000	*76.40	45.18	63.40	105.00	106.00	92.00	73,766,000	62,100,000
Nebraska	1,008,378	103	1,038,000	102	1,05[illegible],000	72.52	43.18	66.17	108.00	106.00	91.00	110,028,000	96,369,000
Kansas	1,147,056	103	1,181,000	99	1,169,000	63.11	40.80	66.21	107.00	107.00	96.00	126,367,000	112,224,000
N.C.W.Miss.R	6,794,19[illegible]	102.9	6,990,000	101.0	7,063,000	65.68	[illegible]	71.38	110.35	111.88	103.62	782,074,000	731,837,000
Kentucky	443,034	101	447,000	99	443,000	64.16	51.06	72.17	105.00	108.00	107.00	48,276,000	47,401,000
Tennessee	349,709	101	354,000	100	354,000	63.63	52.16	74.56	112.00	114.00	114.00	40,356,000	40,356,000
Alabama	135,636	103	140,000	102	143,000	69.55	54.76	69.99	95.00	104.00	99.00	14,560,000	14,157,000
Mississippi	216,220	105	227,000	103	234,000	70.43	49.51	62.02	85.00	92.00	89.00	20,884,000	20,8[illegible]6,000
Louisiana	181,286	101	183,000	102	187,000	56.63	41.60	53.73	79.00	83.00	79.00	15,189,000	14,773,000
Texas	1,170,068	98	1,147,000	101	1,158,000	33.41	24.79	42.72	73.00	80.00	74.00	91,760,000	85,692,000
Oklahoma	742,959	103	765,000	98	750,000	----------	21.34	50.55	81.00	86.00	76.00	65,790,000	57,000,000
Arkansas	254,716	102	260,000	102	265,000	56.09	41.43	55.24	82.00	92.00	86.00	23,920,000	22,790,000
S. Central	3,493,628	100.8	3,523,000	100.3	3,534,000	50.85	38.35	55.13	84.14	91.04	8[illegible].74	320,735,000	302,995,000
Montana	315,956	109	344,000	101	347,000	54.74	28.64	41.85	80.00	87.00	87.00	29,928,000	30,189,000
Wyoming	156,062	100	156,000	102	159,000	48.61	24.96	37.99	83.00	79.00	69.00	12,324,000	10,971,000
Colorado	294,035	106	312,000	103	321,000	60.15	34.51	48.63	85.00	89.00	80.00	27,768,000	25,680,000
New Mexico	179,525	99	178,000	104	185,000	38.19	20.93	28.19	47.00	50.00	50.00	8,900,000	9,250,000
Arizona	99,578	100	100,000	104	104,000	52.36	30.89	32.46	62.00	59.00	69.00	5,900,000	7,176,000
Utah	115,676	107	124,000	106	131,000	43.75	24.32	43.55	85.00	87.00	93.00	10,788,000	12,183,000
Nevada	68,453	103	70,000	103	72,000	57.42	29.50	47.88	78.00	84.00	77.00	5,880,000	5,544,000
Idaho	197,772	105	208,000	103	214,000	55.00	29.78	47.62	102.00	104.00	96.00	21,632,000	20,544,000
Washington	280,572	102	287,000	102	293,000	64.70	42.94	68.47	108.00	108.00	107.00	30,996,000	31,351,000
Oregon	271,708	104	283,000	102	289,000	54.62	32.02	59.38	103.00	111.00	102.00	31,413,000	29,478,000
California	468,886	103	483,000	102	493,000	58.50	43.60	69.07	105.00	117.00	117.00	56,511,000	57,681,000
Far Western	2,448,223	103.9	2,545,000	102.5	2,608,000	56.24	35.06	51.85	90.74	95.10	92.04	242,040,000	240,047,000
United States	19,833,113	102.2	20,277,000	101.1	20,509,000	67.78	48.24	71.99	108.19	111.46	105.94	2,259,981,000	2,172,694,000

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* Dakota Territory.

† Statistics by counties, showing total figures on live stock, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, Section 1, Acts of the Thirty-third General Assembly, will be found in part 3 of this Year Book.

State, Territory or Division	MULES													HORSES AND MULES			
	Number on Farms ranges					Value Jan. 1								Number Not on Farms and Ranges (Census)		No. on Farms and Ranges for Each 100 Acres Improved Land	
	Apr. 15, 1910 (census)	Jan. 1, 1911		Jan. 1, 1912		Per Head						Aggregate					
		Per cent.	Total	Per cent.	Total	1880-1889-Average	1890-1899, Average	1900-1909, Average	1910	1911	1912	1911	1912	June 1, 1900	Apr. 15, 1910	1900	1910
Maine	358													34,061	29,689	22.4	21.9
New Hampshire	195													22,397	18,146	19.6	20.0
Vermont	429													20,396	18,998	24.8	20.1
Massachusetts	268													134,109	115,457	17.2	18.0
Rhode Island	63													19,989	17,878	16.4	18.6
Connecticut	416													40,706	38,703	20.1	21.1
New York	4,052	102	4,000	101	4,000	$102.27	$76.76	$98.95	$132.00	$143.00	$150.00	$572,000	$600,000	307,803	306,746	24.7	24.9
New Jersey	4,041	100	4,000	100	4,000	118.56	96.48	113.80	155.00	155.00	160.00	620,000	640,000	84,314	97,903	20.0	19.4
Pennsylvania	44,323	100	44,000	101	44,000	106.43	79.90	101.31	145.00	148.00	147.00	6,512,000	6,468,000	242,465	247,468	21.0	21.3
N. Atlantic	54,145	100.0	52,000	100.0	52,000	108.81	82.63	102.52	144.96	148.15	148.23	7,704,000	7,708,000	906,240	890,988	22.3	22.3
Delaware	5,935	101	6,000	102	6,000	106.56	82.73	102.57	125.00	133.00	133.00	798,000	798,000	6,999	7,572	21.9	18.3
Maryland	22,720	101	23,000	101	23,000	101.99	82.45	101.75	130.00	136.00	140.00	3,128,000	3,220,000	53,832	56,448	21.0	18.8
Virginia	60,022	102	61,000	100	61,000	83.49	68.20	94.64	130.00	130.00	126.00	7,930,000	7,686,000	31,196	42,537	29.2	25.3
West Virginia	11,717	101	12,000	98	12,000	69.84	56.62	81.28	120.00	122.00	122.00	1,464,000	1,464,000	21,592	28,764	28.0	28.8
North Carolina	174,711	102	178,000	102	182,000	80.19	70.04	101.12	137.00	146.00	144.00	25,988,000	26,208,000	18,956	35,138	28.3	25.9
South Carolina	155,471	106	164,000	101	166,000	95.47	80.83	111.73	158.00	173.00	165.00	28,372,000	27,390,000	12,687	19,991	29.5	25.9
Georgia	295,348	103	304,000	102	310,000	92.33	79.05	112.09	157.00	163.00	158.00	49,552,000	48,980,000	28,704	47,084	31.7	29.6
Florida	23,333	105	24,000	106	25,000	89.10	77.43	114.17	155.00	161.00	154.00	3,864,000	3,850,000	10,843	21,679	26.8	26.2
S. Atlantic	749,257	103.1	772,000	101.7	785,000	89.26	76.01	106.87	148.03	156.86	152.35	121,096,000	119,596,000	184,809	259,213	28.3	26.1
Ohio	22,850	103	24,000	99	24,000	81.23	60.08	86.99	125.00	129.00	127.00	3,096,000	3,048,000	194,737	194,881	21.5	20.6
Indiana	82,168	102	84,000	100	84,000	77.55	56.45	87.56	126.00	130.00	124.00	10,920,000	10,416,000	132,652	126,342	20.4	18.9
Illinois	147,833	102	151,000	100	151,000	78.31	54.23	88.71	131.00	130.00	123.00	19,630,000	18,573,000	249,387	245,467	18.8	17.5
Michigan	3,700	100	4,000	103	4,000	96.69	69.10	81.36	122.00	130.00	135.00	520,000	540,000	102,919	100,938	20.0	20.9
Wisconsin	2,872	102	3,000	101	3,000	87.85	62.63	79.26	115.00	122.00	125.00	366,000	375,000	86,194	90,297	20.1	19.3
N. C. E. Miss. R.	259,423	102.3	266,000	100.0	266,000	79.16	56.03	87.94	128.41	129.82	123.88	34,532,000	32,952,000	765,889	757,925	20.0	19.1

Minnesota	5,775	100	6,000	101	6,000	94.43	65.53	79.60	114.00	119.00	119.00	714,000	711,000	86,487	84,671	26.2	25.9
†Iowa	55,524	102	57,000	100	57,000	84.01	54.52	83.10	123.00	126.00	119.00	7,182,000	6,783,000	100,013	126,847	20.6	19.1
Missouri	342,700	98	336,000	99	333,000	65.25	46.13	78.75	119.00	123.00	115.00	41,328,000	38,295,000	142,255	147,313	18.3	17.4
North Dakota	7,695	102	8,000	101	8,000	--------	68.96	88.51	130.00	122.00	127.00	976,000	1,016,000	16,349	22,930	26.3	31.1
South Dakota	12,424	105	13,000	100	13,000	*97.53	58.06	70.82	121.00	116.00	108.00	1,508,000	1,404,000	25,454	35,416	23.1	23.2
Nebraska	83,405	102	85,000	100	85,000	89.37	55.88	78.50	119.00	119.00	106.00	10,115,000	9,010,000	71,421	72,621	21.7	22.3
Kansas	208,409	105	218,000	100	218,000	79.81	51.57	76.62	116.00	116.00	108.00	25,288,000	23,544,000	96,981	112,477	22.8	22.1
N.C.W.Miss.R.	715,932	101.0	723,000	99.6	720,000	73.10	50.02	78.75	118.67	120.49	112.18	87,111,000	80,766,000	598,960	602,275	21.9	21.9
Kentucky	225,043	105	236,000	99	234,000	69.41	52.31	82.71	118.00	122.00	118.00	28,792,000	27,612,000	52,993	60,523	21.4	21.5
Tennessee	275,855	100	276,000	101	279,000	70.91	54.32	85.42	123.00	126.00	123.00	34,776,000	34,317,000	49,807	58,055	16.9	17.4
Alabama	247,146	104	257,000	103	265,000	79.88	66.95	91.22	122.00	130.00	127.00	33,410,000	33,655,000	26,037	39,872	25.1	25.3
Mississippi	255,760	104	266,000	104	277,000	84.84	65.17	87.56	113.00	115.00	113.00	30,590,000	31,301,000	20,055	30,162	17.1	19.1
Louisiana	131,554	101	133,000	101	134,000	83.18	69.29	94.86	116.00	119.00	116.00	15,827,000	15,544,000	33,357	45,507	13.8	16.9
Texas	675,558	103	696,000	101	703,000	52.01	41.64	64.79	99.00	108.00	104.00	75,168,000	73,112,000	143,801	184,488	11.0	14.8
Oklahoma	257,066	108	278,000	98	272,000	--------	29.77	71.03	105.00	113.00	98.00	31,414,000	26,656,000	40,850	89,548	13.7	17.6
Arkansas	222,200	101	224,000	102	228,000	69.37	52.68	76.32	109.00	120.00	110.00	26,880,000	25,080,000	32,893	42,768	16.2	16.9
S. Central	2,290,182	103.3	2,366,000	101.1	2,392,000	72.15	55.43	79.13	110.65	117.01	111.74	276,857,000	267,277,000	399,833	550,923	15.4	17.7
Montana	4,174	104	4,000	103	4,000	74.73	40.93	56.70	102.00	107.00	91.00	428,000	364,000	17,636	24,857	5.2	11.4
Wyoming	2,045	100	2,000	105	2,000	77.16	52.14	64.99	106.00	107.00	99.00	214,000	198,000	10,191	11,212	5.8	7.9
Colorado	14,739	104	16,000	104	17,000	87.30	61.52	67.91	105.00	105.00	100.00	1,680,000	1,700,000	39,175	51,453	9.3	13.9
New Mexico	14,937	100	15,000	102	15,000	53.49	35.47	47.93	79.00	82.00	86.00	1,230,000	1,290,000	10,362	18,879	2.4	7.5
Arizona	3,963	100	4,000	109	4,000	73.68	40.37	58.46	108.00	104.00	118.00	416,000	472,000	7,121	16,352	2.0	3.4
Utah	2,227	102	2,000	105	2,000	60.13	35.46	45.70	80.00	83.00	85.00	166,000	170,000	13,163	18,775	8.7	11.6
Nevada	2,786	101	3,000	102	3,000	80.51	43.61	58.24	79.00	97.00	82.00	291,000	246,000	3,642	7,875	6.9	10.6
Idaho	4,036	105	4,000	105	4,000	74.24	37.41	62.76	116.00	118.00	112.00	472,000	448,000	12,715	21,299	8.2	13.8
Washington	12,185	109	13,000	104	14,000	85.35	59.01	75.57	121.00	123.00	112.00	1,599,000	1,568,000	22,866	46,421	14.1	21.8
Oregon	9,927	104	10,000	103	10,000	64.86	42.00	65.76	108.00	112.00	111.00	1,120,000	1,110,000	20,537	31,580	11.3	15.2
California	69,761	101	71,000	102	72,000	77.11	54.73	81.66	122.00	133.00	136.00	9,443,000	9,792,000	97,650	43,134	23.6	21.1
Far Western	140,830	102.1	144,000	102.1	147,000	71.98	51.41	75.44	113.37	118.47	118.08	17,059,000	17,358,000	255,058	291,837	11.3	14.7
United States	4,209,769	102.7	4,323,000	100.9	4,362,000	76.63	58.79	84.98	119.84	125.92	120.51	544,359,000	525,657,000	3,110,789	3,353,161	19.3	19.9

*Dakota Territory.

† Statistics by counties, showing total figures on live stock, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, Section 1, Acts of the Thirty-third General Assembly, will be found in part 3 of this Year Book.

MILCH COWS

State Territory or Division	Number of Farms and Ranges					Value Jan. 1							
	Apr. 15, 1910, (Census)	Jan. 1, 1911		Jan. 1, 1912		Per Head						Aggregate	
		Per cent.	Total	Per cent.	Total	1880-1889-Average	1890-1899, Average	1900-1909, Average	1910	1911	1912	1911	1912
Maine	156,819	99	155,000	100	155,000	$28.82	$26.44	$29.75	$33.00	$44.00	$44.00	$ 6,820,000	$ 6,820,000
New Hampshire	101,278	97	98,000	99	97,000	29.80	27.32	32.14	36.20	48.50	44.00	4,753,000	4,268,000
Vermont	265,483	98	200,000	103	268,000	27.30	25.53	28.17	34.20	46.00	42.00	11,960,000	11,256,000
Massachusetts	171,936	99	170,000	98	167,000	35.09	33.16	38.63	42.00	49.00	50.00	8,330,000	8,350,000
Rhode Island	23,329	98	23,000	100	23,000	33.68	32.38	40.41	43.80	52.50	50.40	1,208,000	1,159,000
Connecticut	122,853	99	122,000	98	120,000	32.73	30.45	36.53	41.00	49.00	49.20	5,978,000	5,904,000
New York	1,509,594	100	1,510,000	99	1,495,000	31.54	27.53	33.82	39.50	48.50	43.30	73,235,000	64,734,000
New Jersey	154,418	99	152,000	99	150,000	36.29	34.65	40.92	47.50	53.50	53.20	8,132,000	7,980,000
Pennsylvania	933,640	102	953,000	99	943,000	30.55	26.71	33.75	39.00	44.50	43.70	42,408,000	41,209,000
N. Atlantic	3,439,350	100.1	3,443,000	99.3	3,418,000	31.26	27.88	33.82	39.18	47.29	44.38	162,824,000	151,680,000
Delaware	35,708	102	37,000	101	37,000	29.90	26.29	32.41	38.00	42.50	37.00	1,572,000	1,369,000
Maryland	167,716	100	168,000	100	168,000	29.88	25.03	30.30	37.30	37.50	37.00	6,300,000	6,216,000
Virginia	356,284	100	356,000	99	352,000	21.39	19.84	25.66	29.70	32.00	31.40	11,392,000	11,053,000
W. Virginia	239,539	100	240,000	96	230,000	25.66	21.98	29.53	35.00	35.50	33.80	8,520,000	7,774,000
N. Carolina	308,914	101	312,000	100	312,000	15.62	15.60	21.90	25.50	28.00	28.00	8,736,000	8,736,000
S. Carolina	180,842	102	185,000	100	185,000	18.61	18.68	24.33	28.90	31.50	32.30	5,828,000	5,976,000
Georgia	405,710	99	402,000	101	406,000	16.71	18.22	24.01	25.00	28.50	28.00	11,457,000	11,368,000
Florida	116,041	102	118,000	104	123,000	14.15	15.64	23.39	32.50	35.00	33.50	4,130,000	4,120,000
S. Atlantic	1,810,754	100.3	1,818,000	99.7	1,813,000	20.18	19.36	25.68	29.87	31.87	31.23	57,935,000	56,612,000
Ohio	905,125	99	896,000	99	887,000	30.78	26.11	33.46	42.80	47.00	42.00	42,112,000	37,254,000
Indiana	633,591	101	640,000	99	634,000	28.68	24.83	32.06	41.00	44.50	41.00	28,480,000	25,994,000
Illinois	1,050,223	101	1,060,000	99	1,049,000	29.92	26.33	34.52	42.80	47.00	45.50	49,820,000	47,730,000
Michigan	767,083	104	798,000	101	806,000	31.03	27.17	33.13	39.50	43.50	40.50	34,713,000	32,643,000
Wisconsin	1,473,505	101	1,489,000	101	1,504,000	26.94	24.15	30.98	36.60	42.50	40.40	63,282,000	60,762,000
N.C.E.Miss.R.	4,829,527	101.1	4,883,000	99.9	4,880,000	29.60	25.70	32.85	40.23	44.73	41.88	218,407,000	204,383,000
Minnesota	1,085,388	100	1,085,000	102	1,107,000	26.10	22.15	28.28	33.00	36.00	36.60	39,060,000	40,516,000
†Iowa	1,406,792	100	1,407,000	99	1,393,000	27.17	25.10	30.97	36.00	40.00	40.80	56,280,000	56,834,000
Missouri	856,430	100	856,000	96	822,000	22.97	20.78	27.37	34.80	39.50	40.20	33,812,000	33,044,000

North Dakota	259,173	103	267,000	102	272,000	*28.83	21.73	29.41	33.90	35.50	37.00	9,478,000	10,061,000
South Dakota	369,761	103	381,000	96	366,000	----------	21.16	28.17	33.00	35.50	38.00	13,526,000	13,908,000
Nebraska -----	613,952	102	626,000	98	613,000	28.06	22.30	29.51	35.00	37.50	40.60	23,475,000	24,888,000
Kansas -------	735,107	101	743,000	94	698,000	26.97	21.81	28.13	36.90	40.00	41.00	29,720,000	28,618,000
N.C.W.Miss. R	5,327,606	100.7	5,365,000	98.2	5,271,000	25.95	22.78	29.16	31.83	38.28	39.44	205,351,000	207,872,000
Kentucky ------	409,834	99	406,000	98	398,000	27.40	21.29	26.72	32.70	35.50	35.30	14,819,000	14,049,000
Tennessee ------	397,104	99	393,000	98	385,000	20.15	17.00	22.82	27.50	31.00	32.00	12,183,000	12,320,000
Alabama ------	391,536	100	392,000	101	396,000	15.36	13.42	19.87	23.00	25.00	26.00	9,800,000	10,296,000
Mississippi -----	429,587	102	439,000	101	443,000	15.55	14.36	21.28	23.50	27.00	26.00	11,853,000	11,518,000
Louisiana ------	279,097	102	285,000	101	288,000	17.95	16.33	23.70	24.30	29.50	29.50	8,408,000	8,496,000
Texas ----------	1,013,867	102	1,034,000	100	1,034,000	18.18	16.34	23.58	29.50	34.00	85.10	35,156,000	36,293,000
Oklahoma -----	530,796	100	531,000	95	504,000	----------	21.53	25.69	31.50	37.00	35.40	19,647,000	17,842,000
Arkansas ------	425,793	98	417,000	97	404,000	17.19	18.43	18.65	22.00	27.50	27.00	11,468,000	10,908,000
S. Central ---	3,877,614	100.5	3,897,000	98.8	3,852,000	18.93	15.88	22.97	27.65	31.65	31.60	123,334,000	121,722,000
Montana ------	77,527	109	85,000	107	91,000	36.02	28.46	37.43	46.50	48.50	49.40	4,122,000	4,495,000
Wyoming ------	32,699	102	34,000	104	35,000	33.53	29.20	37.48	43.70	45.00	48.00	1,530,000	1,680,000
Colorado ------	149,424	110	164,000	102	167,000	38.57	27.47	34.04	41.00	44.50	47.00	7,298,000	7,849,000
New Mexico ----	51,451	100	51,000	103	53,000	26.92	22.19	33.83	38.80	42.50	43.00	2,168,000	2,279,000
Arizona --------	28,862	107	31,000	104	32,000	28.72	23.69	37.07	43.00	48.50	51.00	1,504,000	1,632,000
Utah -----------	75,810	105	80,000	104	83,000	29.93	20.16	31.51	34.00	39.00	40.00	3,120,000	3,320,000
Nevada --------	17,084	104	18,000	110	20,000	36.99	27.02	37.89	44.00	48.00	50.00	864,000	1,000,000
Idaho ----------	86,299	105	90,000	105	94,000	34.93	24.97	32.90	41.40	43.50	48.50	3,915,000	4,559,000
Washington ---	186,233	104	193,000	103	205,000	33.45	29.61	35.18	41.80	45.00	54.00	8,685,000	11,070,000
Oregon --------	172,550	102	176,000	102	180,000	27.30	23.35	32.53	39.60	42.00	47.20	7,392,000	8,496,000
California -----	467,332	106	495,000	102	505,000	34.20	26.65	36.81	38.40	48.00	53.00	23,760,000	26,765,000
Far Western -	1,345,271	105.4	1,417,000	103.4	1,465,000	32.95	26.00	35.16	40.04	45.42	49.93	64,358,000	73,145,000
United States-	20,630,122	100.9	20,823,000	99.4	20,699,000	26.65	23.35	30.12	35.79	39.97	39.39	832,209,000	815,414,000

*Dakota Territory.

† Statistics by counties, showing total figures on live stock, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, Section 1, Acts of the Thirty-third General Assembly, will be found in part 3 of this Year Book.

CATTLE, OTHER THAN MILCH COWS

State Territory or Division	Number on Farms and Ranges					Value Jan. 1							
	Apr. 15, 1910 (Census)	Jan. 1, 1911		Jan. 1, 1912		Per Head						Aggregate	
		Per cent.	Total	Per cent.	Total	1880-1889, Average	1890-1899, Average	1900-1909, Average	1910	1911	1912	1911	1912
Maine	99,704	99	99,000	99	98,000	$27.85	$23.58	$17.37	$16.90	$21.20	$19.80	$2,009,000	$1,940,000
New Hampshire	66,553	99	66,000	99	65,000	30.35	23.67	17.88	20.30	24.90	21.60	1,643,000	1,404,000
Vermont	164,831	102	168,000	100	168,000	26.87	21.44	14.88	14.40	20.00	18.20	3,360,000	3,058,000
Massachusetts	80,480	100	80,000	100	80,000	32.30	25.62	17.72	16.70	19.90	18.80	1,592,000	1,504,000
Rhode Island	10,819	101	11,000	100	11,000	33.43	26.54	19.57	17.50	19.60	20.00	216,000	220,000
Connecticut	72,465	100	72,000	99	71,000	32.01	28.24	20.15	19.10	21.90	21.00	1,577,000	1,491,000
New York	913,409	101	922,000	97	894,000	31.44	25.51	17.84	18.20	22.20	19.80	20,468,000	17,701,000
New Jersey	68,581	100	69,000	99	68,000	33.03	26.88	21.30	21.40	23.70	24.10	1,635,000	1,639,000
Pennsylvania	652,879	98	640,000	98	627,000	27.00	22.44	18.87	19.20	21.40	21.70	13,696,000	13,606,000
N. Atlantic	2,129,721	99.9	2,127,000	97.9	2,082,000	29.39	23.93	18.10	18.33	21.76	20.44	46,286,000	42,563,000
Delaware	19,278	100	19,000	99	19,000	27.26	21.22	19.67	21.00	22.30	22.00	424,000	418,000
Maryland	121,017	100	121,000	98	119,000	23.73	21.29	19.33	21.10	22.00	21.40	2,662,000	2,547,000
Virginia	502,783	100	503,000	95	478,000	18.33	16.79	18.54	19.40	20.40	19.90	10,261,000	9,512,000
W. Virginia	380,749	100	380,000	87	331,000	20.83	17.91	21.18	22.50	23.80	22.10	9,044,000	7,315,000
N. Carolina	391,947	99	388,000	98	380,000	10.34	10.55	10.91	12.50	13.40	12.60	5,199,000	4,788,000
S. Carolina	209,040	103	215,000	100	215,000	11.26	11.50	10.76	12.00	13.00	13.20	2,795,000	2,838,000
Georgia	674,606	99	667,000	100	667,000	10.12	9.34	10.09	10.30	11.60	11.00	7,737,000	7,337,000
Florida	729,147	101	736,000	103	758,000	8.40	8.13	9.37	10.30	12.40	13.10	9,126,000	9,930,000
S. Atlantic	3,028,567	100.1	3,029,000	98.0	2,967,000	13.46	12.78	13.68	14.71	15.00	15.06	47,248,000	44,685,000
Ohio	932,482	101	942,000	94	885,000	26.76	22.93	22.16	24.10	24.80	24.30	23,362,000	21,506,000
Indiana	729,425	102	744,000	95	707,000	23.52	21.22	22.47	24.50	25.70	24.50	19,121,000	17,322,000
Illinois	1,390,354	100	1,391,000	91	1,266,000	24.84	21.46	24.15	26.40	26.30	26.60	36,583,000	33,676,000
Michigan	730,740	101	738,000	95	701,000	25.94	20.58	17.56	18.50	19.90	18.80	14,686,000	13,179,000
Wisconsin	1,206,569	95	1,146,000	100	1,146,000	22.59	18.28	15.79	16.40	17.50	18.00	20,055,000	20,628,000
N.C.E.Miss. R.	4,989,570	99.4	4,961,000	94.8	4,705,000	24.85	21.09	21.00	22.64	22.94	22.60	113,807,000	106,311,000
Minnesota	1,262,047	97	1,224,000	94	1,151,000	21.80	16.53	13.74	14.30	15.00	15.30	18,360,000	17,610,000
†Iowa	3,041,214	96	2,919,000	95	2,773,000	22.85	21.83	23.43	22.20	24.10	25.00	70,348,000	69,325,000
Missouri	1,705,052	98	1,671,000	90	1,504,000	19.68	18.43	20.68	22.60	24.60	25.30	41,107,000	38,051,000

N. Dakota	484,589	93	451,000	99	446,000	----------	18.90	19.65	20.50	19.10	21.00	8,614,000	9,366,000
S. Dakota	1,165,512	96	1,118,000	80	894,000	*23.90	18.36	20.29	21.50	21.80	22.20	24,372,000	19,847,000
Nebraska	2,318,398	96	2,225,000	90	2,002,000	23.31	18.90	20.81	21.90	22.50	24.50	50,062,000	49,049,000
Kansas	2,343,296	91	2,202,000	85	1,872,000	22.48	19.43	21.64	23.70	25.30	26.40	55,711,000	49,421,000
N.C.W.Miss. R	12,320,108	95.9	11,810,000	90.1	10,642,000	21.92	19.65	21.07	21.75	22.74	23.74	268,574,000	252,639,000
Kentucky	591,103	100	591,000	95	561,000	22.76	17.85	18.39	19.90	20.90	21.10	12,352,000	11,837,000
Tennessee	599,425	99	594,000	97	576,000	13.72	11.34	12.53	13.80	15.00	14.70	8,910,000	8,467,000
Alabama	540,892	100	540,000	100	540,000	9.58	7.89	8.33	9.00	9.10	9.60	4,914,000	5,184,000
Mississippi	583,045	97	566,000	100	566,000	9.65	8.34	9.09	8.40	9.70	10.00	5,490,000	5,660,000
Louisiana	525,698	99	521,000	99	516,000	11.41	9.56	10.6	10.30	11.00	11.20	6,044,000	5,779,000
Texas	5,920,719	93	5,507,000	94	5,177,000	12.37	11.08	13.07	15.30	16.70	17.00	91,967,000	88,009,000
Oklahoma	1,422,764	98	1,395,000	89	1,242,000	----------	18.41	17.30	19.20	21.50	21.50	29,992,000	26,703,000
Arkansas	602,278	95	572,000	94	538,000	11.21	9.02	8.77	9.00	10.70	11.40	6,120,000	6,133,000
S. Central	10,785,924	95.4	10,286,000	94.5	9,716,000	12.87	11.14	13.57	14.90	16.12	16.24	165,789,000	157,772,000
Montana	865,620	94	813,000	90	732,000	23.66	17.90	22.53	27.40	27.60	29.80	22,439,000	21,814,000
Wyoming	734,728	85	624,000	91	568,000	23.07	16.94	23.54	26.40	26.60	28.80	16,598,000	16,358,000
Colorado	978,313	99	969,000	95	921,000	24.02	18.33	20.60	23.00	24.80	27.60	24,031,000	25,420,000
New Mexico	1,030,212	90	928,000	97	900,000	17.50	11.59	16.67	17.40	19.80	23.40	18,374,000	21,030,000
Arizona	796,067	96	764,000	97	741,000	19.21	13.44	16.87	19.30	20.50	23.30	15,662,000	17,265,000
Utah	336,524	106	356,000	100	356,000	21.13	14.31	18.50	18.30	19.30	21.50	6,871,000	7,654,000
Nevada	432,597	99	429,000	100	429,000	22.37	14.93	20.16	20.70	24.90	26.10	10,682,000	11,197,000
Idaho	367,508	94	346,000	99	343,000	22.89	15.56	19.26	21.40	21.70	25.50	7,508,000	8,746,000
Washington	215,887	90	194,000	96	186,000	24.91	19.40	19.43	19.90	21.90	24.40	4,249,000	4,538,000
Oregon	552,705	90	497,000	92	457,000	20.25	15.79	18.16	18.50	21.60	25.30	10,735,000	11,562,000
California	1,609,693	96	1,546,000	98	1,515,000	23.68	17.02	20.81	20.10	23.50	26.70	36,331,000	40,450,000
Far Western	7,919,854	94.3	7,466,000	95.7	7,148,000	22.47	16.26	19.88	21.64	23.24	26.03	173,480,000	186,064,000
United States	41,173,744	96.4	39,679,000	93.9	37,260,000	19.77	16.53	18.06	19.41	20.54	21.20	815,184,000	790,064,000

*Dakota Territory.

† Statistics by counties, showing total figures on live stock, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, Section 1, Acts of the Thirty-third General Assembly, will be found in part 3 of this Year Book.

SHEEP

State Territory or Division	Number of Farms and Ranges					Value Jan. 1							
						Per Head						Aggregate	
	Apr. 15, 1910 (Census)	Jan. 1, 1911		Jan. 1, 1912									
		Per cent.	Total	Per cent.	Total	1880-1889, Average	1890-1899, Average	1900-1909, Average	1910	1911	1912	1911	1912
Maine	206,434	96	198,000	94	186,000	$2.89	$2.58	$3.31	$3.70	$4.17	$4.10	$826,000	$763,000
New Hampshire	43,772	102	45,000	95	43,000	2.87	2.65	3.28	3.70	4.48	4.30	202,000	185,000
Vermont	118,551	100	119,000	98	117,000	3.37	2.76	3.56	4.00	4.77	4.30	568,000	503,000
Massachusetts	32,708	105	35,000	99	35,000	3.31	3.68	4.30	4.20	5.42	4.80	190,000	168,000
Rhode Island	6,789	103	7,000	100	7,000	3.71	3.55	3.99	4.20	4.83	4.60	34,000	32,000
Connecticut	22,418	102	22,000	97	21,000	3.65	3.57	4.40	4.70	5.81	4.60	128,000	97,000
New York	930,300	100	930,000	98	911,000	3.49	3.34	4.28	5.00	5.38	4.40	5,003,000	4,008,000
New Jersey	30,683	100	31,000	98	30,000	3.99	3.88	4.54	5.20	5.51	5.20	171,000	156,000
Pennsylvania	883,074	102	901,000	98	883,000	3.09	3.17	4.00	4.80	4.84	4.30	4,361,000	3,797,000
N. Atlantic	2,274,729	100.6	2,288,000	97.6	2,233,000	3.25	3.15	4.01	4.69	5.02	4.35	11,483,000	9,709,000
Delaware	7,806	96	8,000	99	8,000	3.22	3.34	3.97	4.60	4.52	4.30	36,000	34,000
Maryland	237,137	100	237,000	97	230,000	3.30	3.26	3.95	4.70	4.95	4.40	1,173,000	1,012,000
Virginia	804,873	100	805,000	97	781,000	2.48	2.59	3.39	3.90	4.32	3.60	3,478,000	2,812,000
W. Virginia	910,360	99	901,000	93	838,000	2.32	2.51	3.46	4.30	4.48	3.90	4,036,000	3,268,000
N. Carolina	214,473	95	203,000	95	193,000	1.35	1.62	2.10	2.60	2.98	2.80	605,000	540,000
S. Carolina	37,559	90	34,000	100	34,000	1.71	1.68	2.06	2.40	2.80	2.80	95,000	95,000
Georgia	187,644	95	179,000	97	174,000	1.48	1.58	1.89	2.20	2.25	2.00	403,000	348,000
Florida	113,701	104	119,000	101	120,000	1.79	1.79	1.98	2.00	1.99	2.10	237,000	252,000
S. Atlantic	2,513,553	98.9	2,486,000	95.7	2,378,000	2.03	2.13	3.01	3.63	4.05	3.52	10,063,000	8,361,000
Ohio	3,909,162	105	4,104,000	90	3,694,000	2.75	2.81	3.78	4.80	4.27	3.40	17,524,000	12,560,000
Indiana	1,336,967	108	1,444,000	95	1,372,000	2.56	3.10	4.15	5.20	5.09	4.20	7,350,000	5,762,000
Illinois	1,059,846	106	1,124,000	95	1,068,000	2.61	3.03	4.33	5.30	5.17	4.40	5,811,000	4,699,000
Michigan	2,306,476	105	2,421,000	94	2,276,000	2.79	2.87	3.78	4.70	4.61	3.60	11,161,000	8,194,000
Wisconsin	929,783	92	856,000	99	847,000	2.31	2.64	3.54	4.10	4.47	3.90	3,826,000	3,303,000
N.C.E.Miss. R.	9,542,234	104.3	9,949,000	93.0	9,257,000	2.67	2.86	3.85	4.84	4.59	3.73	45,672,000	34,518,000
Minnesota	637,582	98	625,000	96	600,000	2.44	2.47	3.30	4.00	3.96	3.60	2,475,000	2,160,000
†Iowa	1,145,549	107	1,226,000	98	1,201,000	2.59	3.04	4.19	5.30	5.07	4.30	6,216,000	5,164,000
Missouri	1,811,268	102	1,847,000	95	1,755,000	1.85	2.29	3.49	4.40	4.31	3.80	8,016,000	6,669,000

N. Dakota	293,371	100	293 000	98	287,000	*2.55	2.50	3.21	4.00	3.84	3.60	1,125,000	1,033,000
S. Dakota	611,264	110	672,000	90	605,000	----------	2.60	3.27	4.00	3.83	3.30	2,574,000	1,996,000
Nebraska	293,500	130	382,000	100	382,000	2.28	2.45	3.34	4.40	4.07	3.60	1,555,000	1,375,000
Kansas	272,475	120	326,000	100	326,000	2.09	2.18	3.45	4.70	4.15	3.80	1,353,000	1,239,000
N.C.W.Miss. R.	5,068,609	106.0	5,371,000	96.0	5,156,000	2.10	2.49	3.53	4.40	4.84	3.81	23,314,000	19,636,000
Kentucky	1,363,013	103	1,404,000	94	1,320,000	2.57	2.56	3.25	4.00	4.11	3.70	5,770,000	4,884,000
Tennessee	795,033	102	811,000	94	762,000	1.67	1.85	2.59	3.40	2.52	3.00	2,855,000	2,286,000
Alabama	142,930	102	146,000	96	140,000	1.48	1.39	1.76	2.00	2.32	2.20	339,000	308,000
Mississippi	195,245	110	214,000	100	214,000	1.52	1.41	1.71	1.90	2.30	2.20	492,000	471,000
Louisiana	178,287	100	178,000	99	176,000	1.64	1.47	1.80	1.90	1.81	2.00	322,000	352,000
Texas	1,808,709	108	1,954,000	104	2,032,000	1.89	1.46	2.23	2.90	2.83	2.80	5,530,000	5,600,000
Oklahoma	62,472	115	71,000	102	72,000	----------	2.06	2.82	3.30	3.62	3.30	257,000	238,000
Arkansas	144,189	98	141,000	95	134,000	1.55	1.42	1.84	2.30	2.43	2.30	343,000	308,000
S. Central	4,689,878	104.9	4,919,000	98.6	4,850,000	1.92	1.65	2.44	3.08	3.23	3.00	15,908,000	14,537,000
Montana	5,380,746	97	5,220,000	96	5,011,000	2.49	2.19	3.03	4.20	3.44	3.30	17,975,000	16,536,000
Wyoming	5,397,161	93	5,019,000	99	4,969,000	2.22	2.51	3.14	4.40	3.46	2.80	17,366,000	13,913,000
Colorado	1,426,214	113	1,611,000	98	1,579,000	1.98	2.14	2.92	3.80	3.60	3.00	5,800,000	4,737,000
New Mexico	3,346,984	93	3,113,000	106	3,300,000	1.45	1.41	2.40	2.90	3.12	2.80	9,713,000	9,240,000
Arizona	1,226,733	115	1,411,000	107	1,510,000	1.84	1.86	2.76	3.70	3.54	4.30	4,995,000	6,493,000
Utah	1,827,180	110	2,010,000	99	1,990,000	2.10	1.99	2.94	4.10	3.79	3.80	7,618,000	7,562,000
Nevada	1,154,795	125	1,444,000	100	1,444,000	2.03	2.15	3.07	3.70	4.02	3.80	5,805,000	5,487,000
Idaho	3,010,478	98	2,951,000	100	2,951,000	2.31	2.19	2.94	4.70	3.96	3.60	11,686,000	10,624,000
Washington	475,555	102	486,000	100	486,000	2.18	2.31	3.13	3.90	4 27	3.50	2,075,000	1,701,000
Oregon	2,699,135	99	2,672,000	97	2,592,000	1.64	1.84	2.82	3.70	3.91	3.30	10,448,000	8,554,000
California	2,417,477	111	2,683,000	99	2,656,000	1.82	2.11	2.97	3.30	3.59	3.60	9,632,000	9,562,000
Far Western	28,362,458	100.9	28,610,000	99.5	28,488,000	1.77	2.00	2.90	3.96	3.60	3.31	103,095,000	94,409,000
United States	52,417,861	102.3	53,633,000	97.6	52,362,000	2.21	2.23	3.13	4.08	3.91	3.46	209,535,000	181,170,000

*Dakota Territory.

† Statistics by counties, showing total figures on live stock, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, Section 1, Acts of the Thirty-third General Assembly, will be found in part 3 of this Year Book.

SWINE

State, Teraitory or Division	Number on Farms and Ranges					Value Jan. 1							
	Apr. 15, 1910 (Census)	Jan. 1, 1911		Jan. 1, 1912		Per Head						Aggregate	
		Per cent.	Total	Per cent.	Total	1880-1889, Average	1890-1899, Average	1900-1909, Average	1910	1911	1912	1911	1912
Maine	87,156	109	95,000	106	101,000	$9.47	$8.28	$9.22	$11.50	$13.10	$11.50	$1,244,000	$1,162,000
New Hampshire	45,237	113	51,000	104	53,000	10.96	8.75	9.65	11.50	11.70	10.50	597,000	556,000
Vermont	94,821	112	106,000	105	111,000	8.87	8.26	8.64	10.00	10.80	10.00	1,145,000	1,110,000
Massachusetts	103,018	112	115,000	102	117,000	12.31	9.37	10.22	11.50	12.20	11.30	1,403,000	1,322,000
Rhode Island	14,038	110	15,000	106	16,000	10.52	9.08	10.51	12.50	12.50	12.00	188,000	192,000
Conecticut	52,372	112	58,000	104	60,000	10.16	9.82	11.11	12.50	13.00	11.60	754,000	696,000
New York	666,179	110	733,000	106	777,000	8.70	7.38	8.86	11.50	11.60	10.20	8,503,000	7,925,000
New Jersey	147,005	110	162,000	102	165,000	9.76	8.67	10.30	12.00	13.00	11.30	2,106,000	1,864,000
Pennsylvania	977,637	109	1,066,000	107	1,141,000	8.30	7.42	8.51	9.50	11.50	10.00	12,259,000	11,410,000
N. Atlantic	2,187,463	109.8	2,401,000	105.9	2,541,000	8.84	7.72	8.92	10.60	11.74	10.32	28,199,000	26,237,000
Delaware	49,260	110	54,000	110	59,000	7.29	5.89	7.99	8.70	9.50	7.20	513,000	425,000
Maryland	302,248	112	338,000	102	345,000	6.49	6.22	7.21	8.90	8.80	8.00	2,974,000	2,760,000
Virginia	797,635	107	854,000	103	880,000	4.23	3.79	4.99	6.50	7.50	6.30	6,405,000	5,544,000
W. Virginia	328,188	112	367,000	99	363,000	4.33	4.18	5.75	7.70	7.50	6.70	2,752,000	2,432,000
N. Carolina	1,227,625	110	1,351,000	104	1,405,000	3.64	3.58	4.82	7.20	7.60	7.40	10,268,000	10,397,000
S. Carolina	665,211	112	745,000	107	797,000	3.84	4.14	5.14	7.20	8.30	8.00	6,184,000	6,376,000
Georgia	1,783,684	105	1,873,000	112	2,098,000	3.42	3.52	5.02	7.00	7.40	6.70	13,860,000	14,057,000
Florida	810,069	107	867,000	110	954,000	2.37	2.23	3.08	4.80	4.60	5.20	3,988,000	4,961,000
S. Atlantic	5,963,920	108.1	6,449,000	107.0	6,901,000	3.90	3.78	5.03	6.97	7.28	6.80	46,944,000	46,952,000
Ohio	3,105,627	120	3,727,000	96	3,578,000	6.06	5.37	7.11	10.70	9.30	8.20	34,661,000	29,340,000
Indiana	3,613,906	115	4,156,000	97	4,031,000	5.90	5.53	6.75	10.00	9.30	7.70	38,651,000	31,039,000
Illinois	4,686,362	110	5,155,000	90	4,640,000	6.22	5.58	7.44	10.90	10.40	8.80	53,612,000	40,832,000
Michigan	1,245,833	112	1,396,000	99	1,382,000	6.34	5.81	7.42	10.50	10.50	8.50	14,658,000	11,747,000
Wisconsin	1,809,331	105	1,899,000	108	2,051,000	6.35	6.29	7.96	11.80	11.00	9.60	20,889,000	19,690,000
N.C.E.Miss. R.	14,461,059	112.9	16,333,000	96.0	15,682,000	6.13	5.72	7.28	10.75	9.95	8.52	162,471,000	132,648,000
Minnesota	1,520,257	112	1,702,000	100	1,702,000	5.78	5.95	7.81	11.50	11.10	10.40	18,892,000	17,701,000
†Iowa	7,545,853	120	9,055,000	107	9,689,000	6.29	6.34	7.78	11.30	11.60	9.80	105,038,000	94,952,000
Missouri	4,438,194	110	4,882,000	92	4,491,000	4.17	4.17	5.47	7.90	8.60	7.00	41,985,000	31,437,000

N. Dakota	331,603	106	352,000	102	359,000	----------	5.81	7.94	11.00	10.40	10.50	3,661,000	3,770,000
S. Dakota	1,009,721	115	1,162,000	95	1,104,000	*6.41	5.81	7.72	11.10	11.00	8.90	12,782,000	9,826,000
Nebraska	3,435,724	115	3,951,000	108	4,267,000	6.21	5.45	7.20	11.00	10.90	8.80	43,066,000	37,550,000
Kansas	3,000,157	120	3,600,000	78	2,808,000	6.07	5.43	6.86	10.00	9.90	7.90	35,640,000	22,183,000
N.C.W.Miss. R.	21,281,509	116.1	24,704,000	98.9	24,420,000	5.56	5.52	7.12	10.52	10.57	8.90	261,064,000	217,419,000
Kentucky	1,491,816	109	1,626,000	106	1,724,000	4.33	3.95	4.75	6.80	7.20	5.40	11,707,000	9,310,000
Tennessee	1,387,938	108	1,499,000	105	1,574,000	3.89	3.66	4.66	6.50	7.40	6.10	11,093,000	9,601,000
Alabama	1,266,733	112	1,419,000	108	1,533,000	3.40	2.92	4.19	6.00	6.90	6.50	9,791,000	9,964,000
Mississippi	1,292,119	110	1,421,000	111	1,577,000	3.28	2.86	4.19	5.50	6.30	6.50	8,952,000	10,250,000
Louisiana	1,327,605	120	1,594,000	103	1,642,000	3.63	3.13	4.30	5.50	6.20	5.80	9,883,000	9,524,000
Texas	2,336,363	110	2,570,000	99	2,544,000	3.28	3.40	4.72	6.00	7.70	6.30	19,789,000	16,027,000
Oklahoma	1,839,030	105	1,931,000	73	1,410,000	----------	4.72	5.63	7.70	8.30	5.50	16,027,000	7,755,000
Arkansas	1,518,947	110	1,671,000	104	1,738,000	3.03	2.48	3.50	4.80	5.90	5.40	9,859,000	9,385,000
S. Central	12,460,551	110.2	13,731,000	100.1	13,742,000	3.61	3.29	4.51	6.31	7.07	5.95	97,101,000	81,816,000
Montana	99,261	125	124,000	115	143,000	8.15	7.59	8.78	10.10	10.40	9.90	1,290,000	1,416,000
Wyoming	33,947	120	41,000	104	43,000	7.86	6.39	8.07	8.50	11.00	8.60	451,000	370,000
Colorado	179,294	120	215,000	98	211,000	8.32	5.78	7.26	9.50	9.80	8.00	2,107,000	1,688,000
New Mexico	45,409	100	46,000	108	50,000	6.98	5.61	6.08	8.50	9.20	8.20	423,000	410,000
Arizona	17,208	105	18,000	125	22,000	5.86	5.80	6.76	9.50	9.60	10.50	173,000	231,000
Utah	64,286	112	72,000	110	79,000	8.87	7.29	7.60	9.00	9.80	9.00	706,000	711,000
Nevada	23,160	120	28,000	108	30,000	6.72	5.75	7.65	9.00	10.10	10.50	283,000	315,000
Idaho	178,346	110	196,000	108	212,000	7.65	5.96	6.96	8.70	9.20	8.00	1,803,000	1,696,000
Washington	206,135	115	237,000	104	246,000	5.86	5.50	7.62	9.40	10.50	9.50	2,488,000	2,337,000
Oregon	217,577	108	235,000	110	258,000	3.94	3.90	5.94	8.20	9.20	8.50	2,162,000	2,193,000
California	766,551	103	790,000	105	830,000	5.19	4.95	6.62	8.20	9.50	8.30	7,505,000	6,889,000
Far Western	1,831,174	109.3	2,002,000	106.1	2,124,000	5.22	5.00	6.82	8.74	9.69	8.60	19,391,000	18,256,000
United States	58,185,676	112.8	65,620,000	99.7	65,410,000	5.18	4.81	6.46	9.14	9.37	8.00	615,170,000	523,328,000

*Dakota Territory.

† Statistics by counties, showing total figures on live stock, compiled by the Iowa Department of Agriculture, from reports received, as required by Chapter 86, Section 1, Acts of the Thirty-third General Assembly, will be found in part 3 of this Year Book.

STATISTICS OF THE PRINCIPAL CROPS.

(Figures furnished by the Bureau of Statistics, United States Department of Agriculture, except where otherwise credited.)

CORN.

Corn crop of countries named—1907-1911.

Countries	1907	1908	1909	1910	1911
	Bushels	Bushels	Bushels	Bushels	Bushels
NORTH AMERICA.					
United States	2,592,320,000	2,668,651,000	2,552,190,000	2,886,260,000	2,531,488,000
Canada:					
Ontario	21,899,000	21,742,000	18,211,000	17,853,000	18,001,000
Quebec	1,377,000	1,126,000	1,047,000	860,000	766,000
Mexico	140,000,000	150,000,000	170,000,000	190,766,000	(1)
Total	2,755,596,000	2,841,519,000	2,741,448,000	3,095,739,000	2,550,255,000
SOUTH AMERICA.					
Argentina	71,768,000	136,055,000	177,157,000	175,330,000	27,675,000
Chile	1,500,000	1,218,000	1,178,000	1,878,000	(1)
Uruguay	5,359,000	6,000,000	6,671,000	6,500,000	(1)
Total	78,627,000	143,273,000	185,006,000	183,708,000	-------------
EUROPE.					
Austria-Hungary:					
Austria	16,599,000	15,170,000	16,102,000	17,388,000	11,933,000
Hungary proper	155,619,000	146,124,000	161,858,000	187,733,000	137,069,000
Croatia-Slavonia	17,934,000	20,536,000	21,752,000	25,589,000	(1)
Bosnia-Herzegovina	6,468,000	8,821,000	10,972,000	10,051,000	8,416,000
Total Austria-Hungary	196,620,000	190,651,000	210,684,000	240,761,000	-------------
Bulgaria	14,080,000	20,717,000	20,472,000	28,360,000	(1)
France	24,027,000	26,247,000	26,075,000	23,399,000	(1)
Italy	88,513,000	95,953,000	99,289,000	101,722,000	93,837,000
Portugal	15,000,000	15,000,000	15,000,000	15,000,000	(1)
Roumania	57,576,000	78,892,000	70,138,000	103,665,000	(1)
Russia:					
Russia proper	41,903,000	49,663,000	29,223,000	-------------	-------------
Poland	1,000	-------------	-------------	-------------	-------------
Northern Caucasia	8,860,000	11,449,000	10,375,000	-------------	-------------
Total Rusia (European)	50,764,000	61,112,000	39,598,000	77,181,000	81,899,000
Servia	17,691,000	21,010,000	27,558,000	27,500,000	(1)
Spain	25,372,000	20,115,000	26,433,000	27,366,000	28,730,000
Total	489,643,000	529,697,000	535,247,000	644,954,000	-------------
AFRICA.					
Algeria	402,000	426,000	807,000	552,000	554,000
Egypt	65,000,000	65,000,000	65,000,000	70,294,000	67,903,000
Union of South Africa	20,000,000	20,000,000	20,000,000	20,000,000	(1)
Total	85,402,000	85,426,000	85,807,000	90,846,000	-------------

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1 No official data received.

CORN—CONTINUED.

Countries.	1907	1908	1909	1910	1911
	Bushels	Bushels	Bushels	Bushels	Bushels
AUSTRALASIA.					
Australia:					
Queensland	3,820,000	3,191,000	2,855,000	2,588,000	4,601,000
New South Wales	5,945,000	4,671,000	5,380,000	7,322,000	(1)
Victoria	727,000	525,000	671,000	1,195,000	(1)
Western Australia	1,000	1,000	2,000	1,000	1,000
South Australia	----------	----------	----------	7,000	7,000
Total Australia	10,493,000	8,388,000	8,908,000	11,113,000	----------
New Zealand	419,000	519,000	736,000	750,000	478,000
Total Australasia	10,912,000	8,907,000	9,644,000	11,863,000	----------
Grand Total	3,420,180,000	3,608,822,000	3,557,152,000	4,027,110,000	(2)
RECAPITULATION.					
North America	2,755,596,000	2,841,519,000	2,741,448,000	3,095,739,000	----------
South America	78,627,000	143,273,000	185,006,000	183,708,000	----------
Europe	489,643,000	529,697,000	535,247,000	644,954,000	----------
Africa	85,402,000	85,426,000	85,807,000	90,846,000	----------
Australasia	10,912,000	8,907,000	9,644,000	11,868,000	----------
Northern Hemisphere	3,310,641,000	3,436,642,000	3,342,502,000	3,811,539,000	----------
Southern Hemisphere	109,539,000	172,180,000	214,650,000	215,571,000	----------

WHEAT.

Wheat Crop of countries named 1907-1911.

NORTH AMERICA.					
United States	634,087,000	664,602,000	683,350,000	635,121,000	621,338,000
Canada:					
New Brunswick	411,000	349,000	395,000	371,000	270,000
Ontario	18,019,000	18,057,000	16,262,000	17,805,000	19,252,000
Manitoba	39,688,000	50,269,000	52,706,000	41,159,000	60,275,000
Saskatchewan	27,692,000	34,742,000	85,197,000	81,139,000	97,665,000
Alberta	4,194,000	6,842,000	9,579,000	6,593,000	36,143,000
Other	2,687,000	2,175,000	2,605,000	2,923,000	2,246,000
Total Canada	92,691,000	112,434,000	166,744,000	149,990,000	215,851,000
Mexico	10,000,000	10,000,000	10,000,000	11,976,000	12,000,000
Total	736,778,000	787,036,000	860,094,000	797,087,000	849,189,000
SOUTH AMERICA.					
Argentina	155,993,000	192,489,000	156,162,000	131,010,000	145,981,000
Chile	15,776,000	18,967,000	17,743,000	19,743,000	18,000,000
Uruguay	6,867,000	7,430,000	8,595,000	7,750,000	6,009,000
Total	178,636,000	218,886,000	182,500,000	158,503,000	169,990,000
EUROPE.					
Austria-Hungary:					
Austria	52,369,000	62,129,000	58,468,000	57,589,000	58,880,000
Hungary proper	120,509,000	152,205,000	113,352,000	169,700,000	175,030,000

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1 No official data received.

2 Total production of countries from which returns have been received in 1911 is 3,013,358,000 bushels, against 3,575,936,000 bushels for same countries in 1910.

WHEAT—CONTINUED.

Countries.	1907	1908	1909	1910	1911
	Bushels	Bushels	Bushels	Bushels	Bushels
Croatia-Slavonia	10,170,000	13,220,000	11,662,000	11,434,000	11,500,000
Bosnia-Herzegovina	2,169,000	3,023,000	2,594,000	2,671,000	2,941,000
Total Austria-Hungary	185,217,000	230,577,000	186,076,000	241,394,000	248,351,000
Belgium	15,835,000	13,393,000	14,603,000	12,449,000	14,616,000
Bulgaria	23,545,000	36,496,000	32,071,000	42,247,000	48,000,000
Denmark	4,343,000	4,318,000	3,829,000	4,547,000	4,731,000
Finland	140,000	111,000	125,000	125,000	125,000
France	376,999,000	317,765,000	356,193,000	257,667,000	314,197,000
Germany	127,843,000	138,442,000	138,000,000	141,884,000	149,411,000
Greece	8,000,000	8,000,000	7,000,000	7,000,000	8,000,000
Italy	177,543,000	152,236,000	189,959,000	153,168,000	192,395,000
Montenegro	200,000	200,000	200,000	200,000	200,000
Netherlands	5,325,000	5,121,000	4,158,000	4,371,000	5,648,000
Norway	290,000	333,000	313,000	294,000	271,000
Portugal	7,000,000	8,000,000	8,000,000	9,000,000	10,000,000
Roumania	42,257,000	54,813,000	56,751,000	110,761,000	93,724,000
Russia:					
Russia proper	340,416,000	383,016,000	586,819,000		
Poland	18,173,000	21,182,000	21,194,000		
Northern Caucasia	79,184,000	84,964,000	103,465,000		
Total Russia (Europ'n)	437,773,000	489,162,000	711,478,000	699,413,000	447,016,000
Servia	8,375,000	11,495,000	13,962,000	12,000,000	13,000,000
Spain	100,331,000	119,970,000	144,105,000	137,448,000	148,495,000
Sweden	6,279,000	6,756,000	6,978,000	7,450,000	7,945,000
Switzerland	4,000,000	3,527,000	3,568,000	2,756,000	3,524,000
Turkey (European)	18,000,000	20,000,000	20,000,000	19,462,000	20,000,000
United Kingdom:					
Great Britain—					
England	53,855,000	51,371,000	60,121,000	53,464,000	60,729,000
Scotland	1,953,000	1,854,000	2,111,000	2,020,000	2,786,000
Wales	1,138,000	966,000	1,147,000	1,122,000	1,118,000
Ireland	1,367,000	1,438,000	1,809,000	1,716,000	1,656,000
Total United Kingdom	58,313,000	55,629,000	65,188,000	58,322,000	66,289,000
Total	1,607,608,000	1,676,344,000	1,962,557,000	1,921,958,000	1,795,938,000
ASIA.					
British India, including such native states as report	317,023,000	227,983,000	284,361,000	358,049,000	369,630,000
Cyprus	2,636,000	2,556,000	1,912,000	2,238,000	1,963,000
Japanese Empire:					
Japan	22,795,000	22,587,000	22,966,000	24,487,000	24,820,000
Formosa	200,000	200,000	200,000	200,000	200,000
Total Japanese Empire	22,995,000	22,787,000	23,166,000	24,687,000	25,020,000
Persia	16,000,000	16,000,000	16,000,000	16,000,000	16,000,000
Russia:					
Central Asia	27,085,000	21,416,000	26,429,000		
Siberia	45,771,000	55,755,000	45,269,000		
Transcaucasia	63,000	66,000	94,000		
Total Russia (Asiatic)	72,919,000	77,237,000	71,792,000	76,282,000	62,475,000
Turkey (Asiatic)	35,000,000	35,000,000	35,000,000	35,000,000	35,000,000
Total	466,573,000	381,563,000	432,231,000	512,256,000	510,088,000

WHEAT—CONTINUED.

Countries.	1907	1908	1909	1910	1911
	Bushels	Bushels	Bushes	Bushels	Bushels
AFRICA.					
Algeria	31,261,000	29,739,000	34,769,000	39,374,000	35,874,000
Egypt	30,000,000	30,000,000	30,000,000	32,623,000	37,932,000
Tunis	6,314,000	3,674,000	6,430,000	5,512,000	5,000,000
Union of South Africa	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Total	70,075,000	65,913,000	73,699,000	80,009,000	81,306,000
AUSTRALASIA.					
Australia:					
Queensland	1,144,000	715,000	1,241,000	1,621,000	1,055,000
New South Wales	22,506,000	9,444,000	15,971,000	29,431,000	28,793,000
Victoria	23,331,000	12,482,000	24,082,000	29,687,000	35,910,000
South Australia	18,017,000	19,739,000	20,009,000	25,926,000	25,112,000
Western Australia	2,845,000	3,018,000	2,535,000	5,779,000	6,083,000
Tasmania	672,000	665,000	825,000	819,000	1,156,000
Total Australia	68,515,000	46,063,000	64,663,000	93,263,000	98,109,000
New Zealand	5,782,000	5,743,000	9,049,000	9,008,000	8,535,000
Total Australasia	74,297,000	51,806,000	73,712,000	102,271,000	106,644,000
Grand total	3,133,967,000	3,181,548,000	3,584,793,000	3,572,084,000	3,513,155,000
RECAPITULATION.					
North America	736,778,000	787,036,000	860,094,000	797,087,000	849,189,000
South America	178,636,000	218,886,000	182,500,000	158,503,000	169,990,000
Europe	1,607,608,000	1,676,344,000	1,962,557,000	1,921,958,000	1,795,938,000
Asia	466,573,000	381,563,000	432,231,000	512,256,000	510,088,000
Africa	70,075,000	65,913,000	73,699,000	80,009,000	81,306,000
Australasia	74,297,000	51,806,000	73,712,000	102,271,000	106,644,000
Northern Hemisphere	2,878,534,000	2,908,356,000	3,326,081,000	3,308,810,000	3,234,021,000
Southern Hemisphere	255,433,000	273,192,000	258,712,000	263,274,000	279,134,000

OATS.

Oat crop of Countries named, 1907-1911.

NORTH AMERICA.					
United States	754,443,000	807,156,000	1,007,129,000	1,186,341,000	922,298,000
Canada:					
New Brunswick	6,107,000	5,373,000	6,136,000	6,748,000	6,085,000
Ontario	88,745,000	110,310,000	116,017,000	136,974,000	87,846,000
Manitoba	44,775,000	47,506,000	58,721,000	44,351,000	61,511,000
Saskatchewan	24,783,000	31,030,000	97,533,000	65,203,000	104,085,000
Alberta	9,826,000	24,227,000	40,775,000	25,122,000	60,524,000
Other	54,981,000	47,580,000	56,376,000	65,267,000	49,898,000
Total Canada	229,217,000	266,026,000	375,558,000	343,665,000	369,949,000
Mexico	17,000	17,000	17,000	17,000	17,000
Total	983,677,000	1,073,199,000	1,382,704,000	1,530,023,000	1,292,264,000
SOUTH AMERICA					
Argentina	12,257,000	33,949,000	58,600,000	36,483,000	47,192,000
Uruguay	121,000	239,000	462,000	400,000	590,000
Total	12,378,000	34,188,000	59,062,000	36,883,000	47,782,000

OATS—CONTINUED.

Countries.	1907	1908	1909	1910	1911
	Bushels	Bushels	Bushels	Bushels	Bushels
EUROPE					
Austria-Hungary:					
Austria	170,605,000	144,069,000	171,940,000	142,139,000	156,384,000
Hungary proper	79,484,000	70,168,000	92,270,000	70,701,000	90,151,000
Croatia-Slavonia	4,174,000	4,253,000	5,607,000	5,445,000	6,000,000
Bosnia-Herzegovina	2,575,000	3,572,000	4,575,000	5,322,000	5,405,000
Total Austria-Hung'y	256,838,000	222,062,000	274,392,000	223,607,000	257,940,000
Belgium	45,937,000	43,058,000	43,231,000	35,000,000	40,000,000
Bulgaria	7,416,000	11,252,000	9,356,000	10,789,000	11,000,000
Denmark	42,529,000	40,437,000	42,170,000	40,596,000	42,000,000
Finland	20,643,000	18,371,000	18,000,000	18,000,000	18,000,000
France	303,889,000	285,837,000	331,183,000	290,776,000	304,452,000
Germany	630,324,000	530,131,000	628,718,000	544,287,000	530,764,000
Italy	30,000,000	30,000,000	43,402,000	28,574,000	40,973,000
Netherlands	20,933,000	19,683,000	19,361,000	20,357,000	18,515,000
Norway	6,946,000	11 [illegible]	8,804,000	10,488,000	8,593,000
Roumania	17,842,000	17,212,000	25,945,000	29,647,000	26,222,000
Russia:					
Russia proper	729,813,000	743,523,000	960,498,000		
Poland	72,574,000	66,135,000	73,758,000		
Northern Caucasia	19,697,000	24,860,000	33,428,000		
Total Russia (European)	822,084,000	834,518,000	1,067,684,000	966,248,000	792,902,000
Servia	2,984,000	3,057,000	3,445,000	2,205,000	2,500,000
Spain	16,998,000	28,114,000	34,307,000	29,018,000	33,858,000
Sweden	64,597,000	72,773,000	69,292,000	75,238,000	63,462,000
United Kingdom:					
Great Britain—					
England	94,606,000	82,470,000	80,573,000	80,225,000	74,119,000
Scotland	36,193,000	37,920,000	39,097,000	37,425,000	36,750,000
Wales	7,829,000	7,133,000	7,233,000	8,018,000	7,087,000
Ireland	50,850,000	54,032,000	57,467,000	65,770,000	59,207,000
Total United Kingdom	189,478,000	181,555,000	184,370,000	191,438,000	177,163,000
Total	2,479,438,000	2,349,325,000	2,803,660,000	2,516,268,000	2,368,344,000
ASIA					
Cyprus	331,000	382,000	385,000	525,000	480,000
Russia:					
Central Asia	18,049,000	17,371,000	15,633,000		
Siberia	67,114,000	89,500,000	62,033,000		
Transcaucasia	13,000	27,000	37,000		
Total Russia (Asiatic)	85,176,000	106,898,000	77,703,000	79,743,000	65,454,000
Total	85,507,000	107,280,000	78,088,000	80,268,000	65,934,000
AFRICA.					
Algeria	10,651,000	9,600,000	10,673,000	13,258,000	11,520,000
Tunis	3,149,000	1,736,000	5,443,000	5,374,000	5,000,000
Union of South Africa	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
Total	17,300,000	14,836,000	19,616,000	22,132,000	20,020,000
AUSTRALASIA.					
Australia:					
Queensland	39,000	10,000	40,000	52,000	52,000
New South Wales	1,449,000	879,000	1,154,000	2,029,000	1,756,000
Victoria	9,124,000	5,365,000	11,475,000	8,163,000	10,005,000

OATS—CONTINUED.

Countries	1907	1908	1909	1910	1911
	Bushels	Bushels	Bushels	Bushels	Bushels
South Australia	924,000	902,000	1,320,000	1,247,000	1,172,000
Western Australia	472,000	745,000	765,000	1,287,000	801,000
Tasmania	2,042,000	1,574,000	1,900,000	2,422,000	2,128,000
Total Australia	14,041,000	9,475,000	16,654,000	15,200,000	15,914,000
New Zealand	11,555,000	15,495,000	19,503,000	13,953,000	10,412,000
Total Australasia	25,596,000	24,970,000	36,157,000	29,153,000	26,326,000
Grand Total	3,603,896,000	3,603,798,000	4,379,287,000	4,214,727,000	3,820,670,000
RECAPITULATION.					
North America	983,677,000	1,073,199,000	1,382,704,000	1,530,023,000	1,292,264,000
South America	12,378,000	34,188,000	59,062,000	36,883,000	47,782,000
Europe	2,479,438,000	2,349,325,000	2,803,660,000	2,516,268,000	2,368,344,000
Asia	85,507,000	107,280,000	78,088,000	80,268,000	65,934,000
Africa	17,300,000	14,836,000	19,616,000	22,132,000	20,020,000
Australasia	25,596,000	24,970,000	36,157,000	29,153,000	26,326,000
Northern Hemisphere	3,562,422,000	3,541,140,000	4,280,568,000	4,145,191,000	3,743,062,000
Southern Hemisphere	41,474,000	62,658,000	98,719,000	69,536,000	77,608,000

BARLEY.

Barley crop of countries named, 1907–1911.

NORTH AMERICA.					
United States	153,597,000	166,756,000	173,321,000	173,832,000	160,240,000
Canada:					
New Brunswick	97,000	79,000	94,000	73,000	74,000
Ontario	21,718,000	21,124,000	20,952,000	20,727,000	13,760,000
Manitoba	16,753,000	17,093,000	20,866,000	13,826,000	14,447,000
Saskatchewan	1,350,000	1,952,000	4,493,000	3,598,000	5,445,000
Alberta	1,083,000	3,881,000	5,999,000	3,953,000	4,151,000
Other	3,341,000	2,633,000	2,994,000	2,971,000	2,764,000
Total Canada	44,342,000	46,762,000	55,398,000	45,148,000	40,641,000
Mexico	7,000,000	7,000,000	7,000,000	6,329,000	6,500,000
Total	204,939,000	220,518,000	235,719,000	225,309,000	207,381,000
EUROPE.					
Austria-Hungary:					
Austria	78,555,000	69,497,000	79,368,000	67,618,000	74,414,000
Hungary proper	63,078,000	56,324,000	71,868,000	53,630,000	72,970,000
Croatia-Slavonia	2,064,000	2,552,000	2,394,000	2,732,000	3,000,000
Bosnia-Herzegovina	2,388,000	2,389,000	3,755,000	3,787,000	2,970,000
Total Austria-Hungary	146,085,000	130,762,000	157,385,000	127,767,000	153,354,000
Belgium	5,129,000	4,409,000	4,574,000	3,748,000	4,595,000
Bulgaria	6,772,000	11,311,000	9,322,000	14,083,000	16,000,000
Denmark	21,616,000	20,166,000	21,599,000	21,793,000	24,655,000
Finland	5,124,000	5,131,000	5,000,000	5,000,000	5,000,000
France	43,043,000	40,673,000	46.144,000	43,477,000	48,812,000
Germany	160,650,000	140,539,000	160,552,000	133,330,000	145,132,000
Italy	8,000,000	9,000,000	10,951,000	9,483,000	10,882,000
Netherlands	4,091,000	3,953,000	3,332,000	3,383,000	3,664,000
Norway	2,597,000	3,028,000	2,596,000	2,900,000	2,550,000
Roumania	20,962,000	12,873,000	19,955,000	29,359,000	26,222,000

BARLEY—CONTINUED.

Countries	1907	1908	1909	1910	1911
	Bushels	Bushels	Bushels	Bushels	Bushels
Russia:					
Russia proper	277,500,000	297,449,000	382,163,000		
Poland	25,395,000	23,790,000	26,671,000		
Northern Caucasia	41,206,000	46,219,000	55,900,000		
Total Russia—(European)1	344,101,000	367,458,000	464,734,000	448,832,000	401,228,000
Servia	3,137,000	3,351,000	3,123,000	2,067,000	2,500,000
Spain	53,598,000	69,596,000	81,579,000	76,308,000	86,792,000
Sweden	12,811,000	15,520,000	13,900,000	14,763,000	13,725,000
United Kingdom:					
Great Britain—					
England	51,926,000	46,353,000	52,323,000	48,777,000	43,378,000
Scotland	7,466,000	7,410,000	7,731,000	6,578,000	6,490,000
Wales	2,881,000	2,682,000	2,804,000	2,896,000	2,729,000
Ireland	6,934,000	7,064,000	8,258,000	6,846,000	7,099,000
Total United Kingdom	69,207,000	63,509,000	71,116,000	65,097,000	59,696,000
Total	906,023,000	901,279,000	1,075,862,000	1,001,390,000	1,004,807,000
ASIA.					
Cyprus	2,963,000	2,613,000	2,469,000	2,104,000	1,800,000
Japanese Empire:					
Japan	90,480,000	87,138,000	87,185,000	81,953,000	95,533,000
Formosa	50,000	50,000	50,000	50,000	60,000
Total Japanese Empire	90,530,000	87,188,000	87,235,000	82,003,000	95,593,000
Russia:					
Central Asia	4,385,000	4,266,000	4,099,000		
Siberia	4,957,000	6,103,000	4,775,000		
Transcaucasia	4,000	13,000	10,000		
Total Russia (Asiatic)1	9,346,000	10,382,000	8,884,000	10,160,000	10,006,000
Total	102,839,000	100,183,000	98,588,000	94,267,000	107,399,000
AFRICA.					
Algeria	41,543,000	31,511,000	50,008,000	48,708,000	47,588,000
Tunis	9,506,000	5,057,000	9,186,000	6,660,000	6,600,000
Union of South Africa	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Total	54,049,000	39,568,000	62,194,000	58,368,000	57,188,000
AUSTRALASIA.					
Australia:					
Queensland	163,000	67,000	142,000	200,000	86,000
New South Wales	158,000	77,000	172,000	281,000	85,000
Victoria	1,295,000	1,093,000	1,706,000	1,056,000	1,383,000
South Australia	507,000	585,000	852,000	713,000	562,000
Western Australia	50,000	79,000	77,000	105,000	35,000
Tasmania	146,000	154,000	190,000	158,000	147,000
Total Australia	2,319,000	2,055,000	3,139,000	2,513,000	2,298,000
New Zealand	1,068,000	1,200,000	2,000,000	1,345,000	950,000
Total Australasia	3,387,000	3,255,000	5,139,000	3,858,000	3,248,000
Grand total	1,271,237,000	1,264,803,000	1,477,502,000	1,383,192,000	1,380,023,000

1 Exclusive of winter barley.

BARLEY—CONTINUED.

Countries	1907	1908	1909	1910	1911
	Bushels	Bushels	Bushels	Bushels	Bushels
RECAPITULATION.					
North America	204,939,000	220,518,000	235,719,000	225,309,000	207,381,000
Europe	906,023,000	901,279,000	1,075,862,000	1,001,390,000	1,004,807,000
Asia	102,839,000	100,183,000	98,588,000	94,267,000	107,399,000
Africa	54,049,000	39,568,000	62,194,000	58,368,000	57,188,000
Australasia	3,387,000	3,255,000	5,139,000	3,858,000	3,248,000
Northern Hemisphere	1,264,850,000	1,258,548,000	1,469,363,000	1,376,334,000	1,373,775,000
Southern Hemisphere	6,387,000	6,255,000	8,139,000	6,858,000	6,248,000

RYE.

Rye crop of countries named; 1907-1911.

NORTH AMERICA.					
United States	31,566,000	31,851,000	29,520,000	34,897,000	33,119,000
Canada:					
Ontario	1,039,000	1,030,000	1,097,000	923,000	1,766,000
Manitoba	84,000	101,000	75,000	92,000	----------
Quebec	----------	325,000	335,000	308,000	321,000
Other	371,000	255,000	208,000	221,000	607,000
Total Canada	1,494,000	1,711,000	1,715,000	1,544,000	2,694,000
Mexico	70,000	70,000	70,000	70,000	70,000
Total	33,130,000	33,632,000	31,305,000	36,511,000	35,883,000
EUROPE.					
Austria-Hungary:					
Austria	86,452,000	113,309,000	114,433,000	108,938,000	104,123,000
Hungary proper	39,445,000	45,185,000	44,858,000	49,686,000	50,379,000
Croatia-Slavonia	2,136,000	2,520.000	2,393,000	2,318,000	2,300,000
Bosnia-Herzegovina	271,000	298,000	368,000	394,000	379,000
Total Austria-Hungary	128,304,000	161,312,000	162,052,000	161,336,000	157,181,000
Belgium	23,484,000	22,199,000	23,154,000	22,085,000	23,089,000
Bulgaria	3,883.000	5,604,000	6,906,000	9,045,000	10,000,000
Denmark	15,893,000	19,170,000	18,922,000	19,565,000	19,729,000
Finland	11,032,000	11,195,000	11,000,000	11,000,000	11,000,000
France	55,896,000	51,703,000	54,934,000	44,064,000	47,354,000
Germany	384,150,000	422,692,000	446,767,000	413,802,000	427,776,000
Italy	5,000,000	5,000,000	5,032,000	5,439,000	5,297,000
Netherlands	14,483,000	15,866,000	17,652,000	15,126,000	17,410,000
Norway	823,000	869,000	1,011,000	896,000	948,000
Roumania	2,554,000	2,640,000	3,090,000	7,885,000	4,989,000
Russia:					
Russia proper	693,257,000	673,736,000	783,055,000	----------	----------
Poland	74,127,000	77,954.000	86,775,000	----------	----------
Northern Caucasia	6,807,000	6,993,000	7,335,000	----------	----------
Total Russia (European)	774,191,000	758,683,000	877,165,000	843,699,000	742,376,000
Servia	911,000	974,000	1,024,000	768,000	800,000
Spain	27,027,000	26,412.000	34,901.000	27,596,000	28,897,000
Sweden	22,001,000	26,052,000	25,728,000	24,154,000	23,825,000
United Kingdom	1,895,000	1,776,000	1,954,000	1,800,000	1,750,000
Total	1,471,527,000	1,532,147,000	1,691,292,000	1,608,260,000	1,522,421,000

RYE—CONTINUED.

Countries	1907	1908	1909	1910	1911
	Bushels	Bushels	Bushels	Bushels	Bushels
ASIA.					
Russia:					
Central Asia	993,000	564,000	1,498,000	-------------	-------------
Siberia	32,931,000	22,775,000	18,152,000	-------------	-------------
Transcaucasia	12,000	9,000	18,000	-------------	-------------
Total Russia (Asiatic)	33,936,000	23,348,000	19,668,000	23,927,000	19,733,000
AUSTRALASIA.					
Australia:					
Queensland	3,000	1,000	1,000	3,000	2,000
New South Wales	98,000	56,000	51,000	66,000	59,000
Victoria	21,000	22,000	33,000	27,000	30,000
South Australia	-------------	-------------	-------------	15,000	8,000
Western Australia	5,000	5,000	4,000	10,000	6,000
Tasmania	15,000	15,000	18,000	18,000	24,000
Total Australia	142,000	99,000	107,000	139,000	129,000
New Zealand	43,000	73,000	94,000	100,000	109,000
Total Australasia	185,000	172,000	201,000	239,000	238,000
Grand Total	1,538,778,000	1,589,299,000	1,742,466,000	1,668,937,000	1,578,275,000
RECAPITULATION.					
North America	33,130,000	33,632,000	31,365,000	36,511,000	35,883,000
Europe	1,471,527,000	1,532,147,000	1,691,292,000	1,608,260,000	1,522,421,000
Asia	33,936,000	23,348,000	19,668,000	23,927,000	19,733,000
Australasia	185,000	172,000	201,000	239,000	238,000
Northern Hemisphere	1,538,593,000	1,589,127,000	1,742,265,000	1,668,698,000	1,578,037,000
Southern Hemisphere	185,000	172,000	201,000	239,000	238,000

FLAXSEED.

Flaxseed crop of countries named, 1908-1910.

Countries.	Seed			Fiber		
	1908	1909	1910	1908	1909	1910
	Bushels.	Bushels.	Bushels.	Pounds.	Pounds.	Pounds.
NORTH AMERICA						
United States	25,805,000	19,513,000	12,718,000	------------	------------	------------
Canada:						
Manitoba	281,000	317,000	290,000	------------	------------	------------
Saskatchewan	1,144,000	1,787,000	3,448,000	------------	------------	------------
Alberta	74,000	109,000	64,000	------------	------------	------------
Total	1,499,000	2,213,000	3,802,000	------------	------------	------------
Mexico	150,000	150,000	150,000	------------	------------	------------
Total North America	27,454,000	21,876,000	16,670,000	------------	------------	------------

FLAXSEED—CONTINUED.

Countries	Seed			Fiber		
	1908	1909	1910	1908	1909	1910
	Bushels	Bushels	Bushels	Pounds	Pounds	Pounds
SOUTH AMERICA.						
Argentina	43,333,000	41,291,000	28,212,000	------------	------------	------------
Uruguay	723,000	522,000	600,000	------------	------------	------------
Total	44,056,000	41,813,000	28,812,000	------------	------------	------------
EUROPE.						
Austria-Hungary:						
Austria	932,000	852,000	663,000	74,106,000	68,136,000	50,191,000
Hungary proper	190,000	200,000	164,000	19,965,000	20,000,000	18,492,000
Croatia-Slavonia	30,000	30,000	30,000	8,861,000	9,000,000	8,000,000
Bosnia-Herzegovina	4,000	4,000	4,000	1,400,000	1,400,000	1,000,000
Total Austria-Hungary	1,156,000	1,086,000	861,000	104,332,000	98,536,000	77,683,000
Belgium	300,000	300,000	300,000	27,000,000	27,000,000	28,000,000
Bulgaria	2,000	2,000	8,000	168,000	200,000	709,000
France	722,000	436,000	416,000	47,886,000	30,494,000	33,106,000
Italy	(1)	281,000	232,000	7,000,000	7,242,000	6,883,000
Netherlands	341,000	219,000	316,000	19,692,000	13,438,000	14,189,000
Roumania	180,000	205,000	363,000	2,404,000	1,628,000	4,448,000
Russia:						
Russia proper	17,326,000	19,767,000	------------	1,500,000,000	1,022,484,000	------------
Poland	903,000	948,000	------------	70,000,000	42,450,000	------------
Northern Caucasia	410,000	583,000	------------	26,000,000	26,130,000	------------
Total Russia (European)	18,639,000	21,298,000	------------	1,596,000,000	1,091,064,000	(1)
Servia	------------	------------	------------	1,032,000	1,100,000	1,100,000
Sweden	22,000	21,000	21,000	1,547,000	1,449,000	1,400,000
United Kingdom (Ireland)	------------	------------	------------	17,745,000	16,081,000	19,882,000
Total	21,362,000	23,848,000	------------	1,824,806,000	1,288,232,000	------------
ASIA.						
British India, including such native States as report	6,528,000	11,552,000	17,104,000	------------	------------	------------
Russia:						
Central Asia	(2) 495,000	966,000	------------	27,000,000	51,864,000	------------
Siberia	797,000	771,000	------------	45,785,000	38,109,000	------------
Transcaucasia	150,000	107,000	------------	10,000,000	6,429,000	------------
Total Russia (Asiatic)	1,442,000	1,844,000	------------	82,785,000	96,402,000	(1)
Total Asia	7,970,000	13,396,000	------------	82,785,000	96,402,000	------------
AFRICA.						
Algeria	8,000	10,000	10,000	------------	------------	------------
Grand Total	100,850,000	100,943,000	------------	1,907,591,000	1,384,634,000	------------

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(1) No official data.
(2) Incomplete official returns.

FLAXSEED—CONTINUED.

Countries	Seed 1908 Bushels	Seed 1909 Bushels	Seed 1910 Bushels	Fiber 1908 Pounds	Fiber 1909 Pounds	Fiber 1910 Pounds
RECAPITULATION.						
North America	27,454,000	21,876,000	16,670,000			
South America	44,056,000	41,813,000	24,024,000			
Europe	21,362,000	23,848,000		1,824,806,000	1,288,232,000	
Asia	7,970,000	13,396,000		82,785,000	96,402,000	
Africa	8,000	10,000	10,000			
Northern Hemisphere	56,794,000	59,130,000		1,907,591,000	1,384,634,000	
Southern Hemisphere	44,056,000	41,813,000	24,024,000			

POTATOES

Potato crop of countries named, 1906-1910.

(No statistics for Portugal, Egypt, and some other less important potato-growing countries.)

Country.	1906 Bushels	1907 Bushels	1908 Bushels	1909 Bushels	1910 Bushels
North America—					
United States (contiguous)	308,038,000	298,262,000	278,985,000	389,195,000	349,032,000
Canada—					
Prince Edward Island	*a*	5,453,000	7,327,000	6,761,000	4,915,000
Nova Scotia	*a*	8,294,000	7,884,000	9,098,000	6,432,000
New Brunswick	5,522,000	5,183,000	11,203,000	12,247,000	7,486,000
Quebec	*a*	22,911,000	16,680,000	30,853,000	21,271,000
Ontario	15,494,000	20,908,000	23,096,000	29,465,000	26,163,000
Manitoba	4,281,000	4,150,000	3,807,000	4,118,000	2,838,000
Saskatchewan	5,507,000	2,706,000	1,826,000	3,944,000	2,658,000
Alberta		2,632,000	1,967,000	2,599,000	2,285,000
Other	*b* 29,000,000				
Total Canada	59,804,000	72,237,000	73,790,000	99,085,000	74,048,000
Mexico	924,000	*c* 924,000	*c* 924,000	*c* 924,000	*c* 924,000
Newfoundland *b*	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000
Total	370,116,000	372,773,000	355,049,000	490,554,000	425,354,000
South America—					
Argentina	*d* 10,000,000	*d* 10,000,000	*e* 10,000,000	*d* 10,000,000	*d* 10,000,000
Chile	*f* 6,532,000	*f* 6,532,000	8,063,000	6,404,000	7,863,000
Total	16,532,000	16,532,000	18,063,000	16,404,000	17,863,000

[a] Included in "other."
[b] Estimated from returns of census year, 1900.
[c] Data for 1906.
[d] Data for 1908.
[e] Census shows 19,000 hectares (46,949 acres) yielding 15,000 kilograms per hectare (223 bushels per acre.)
[f] Data for 1905.

POTATOES—CONTINUED.

Countries	1906	1907	1908	1909	1910
	Bushels	Bushels	Bushels	Bushels	Bushels
Europe.					
Austria-Hungary—					
Austria	514,289,000	538,779,000	475,860,000	479,616,000	491,126,000
Hungary proper	179,083,000	178,168,000	139,469,000	183,530,000	176,974,000
Croatia-Slavonia	12,854,000	25,625,000	21,129,000	16,832,000	*g* 16,832,000
Bosina-Herzegovina	2,328,000	2,949,000	*g* 2,949,000	*h* 2,949,000	5,048,000
Total Austria-Hngy	708,554,000	745,521,000	639,407,000	682,927,000	689,980,000
Belgium	88,652,000	88,192,000	82,846,000	90,358,000	*g* 90,358,000
Bulgaria	364,000	300,000	340,000	323,000	432,000
Denmark	28,454,000	24,426,000	20,752,000	24,326,000	30,517,000
Finland	20,432,000	18,765,000	*g* 16,194,000	17,887,000	16,322,000
France	372,076,000	512,229,000	625,021,000	613,041,000	313,189,000
Germany	1,577,653,000	1,673,246,000	1,702,803,000	1,716,143,000	1,597,174,000
Greece	*i* 550,000	*i* 550,000	*i* 550,000	*j* 550,000	*g* 550,000
Italy	60,000,000	*k* 60,000,000	*k* 60,000,000	63,273,000	56,550,000
Luxemburg	6,491,000	7,295,000	5,878,000	6,099,000	5,085,000
Malta	378,000	793,000	692,000	372,000	654,000
Netherlands	95,503,000	94,401,000	96,695,000	97,275,000	88,376,000
Norway	20,995,000	16,956,000	28,030,000	22,084,000	22,398,000
Roumania	4,636,000	3,860,000	4,310,000	3,813,000	4,846,000
Russia—					
Russia proper	630,211,000	694,487,000	682,454,000	764,943,000	*l*
Poland	296,662,000	327,689,000	366,433,000	396,023,000	*l*
Northern Caucasia	12,844,000	11,932,000	11,248,000	12,520,000	*l*
Total Russia (Eur.)	939,717,000	1,034,108,000	1,060,135,000	1,173,486,000	*1,343,268,000
Servia	1,799,000	876,000	645,000	1,396,000	3,110,000
Spain	*n* 84,000,000	*n* 84,000,000	*n* 84,000,000	*n* 84,000,000	91,014,000
Sweden	63,829,000	57,823,000	78,0 0,000	61,981,000	68,591,000
Switzerland	*o* 47,000,000	*o* 47,000,000	49,971,000	44,092,000	46,712,000
United Kingdom—					
Great Britain	128,005,000	111,159,000	146,258,000	137,180,000	129,813,000
Ireland	99,328,000	83,869,000	119,455,000	119,572,000	107,178,000
Total Great Britain and Ireland	227,333,000	195,028,000	265,713,000	256,752,000	236,991,000
Total	4,348,416,000	4,665,379,000	4,831,002,000	4,960,178,000	4,706,117,000
Asia.					
Japan	18,691,000	20,310,000	21,174,000	21,996,000	*p* 21,996,000
Russia (Asiatic) *g*	16,481,000	17,076,000	31,759,000	31,042,000	*q*
Total	35,172,000	37,386,000	52,933,000	53,038,000	21,996,000
Africa.					
Algeria	1,684,000	1,803,000	1,549,000	1,727,000	1,727,000

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g Year preceding.
h Data for 1907.
i Data for 1909.
j Unofficial estimate.
k Average production as unofficially estimated.
l No. data.
*Includes Russia, Asiatic.
n Average production as unofficially estimated.
o Average 1908-1910.
p Year preceding.
q Included in "Russia, European."
r 1906-1907 represents 10 governments and districts; 1908 and 1909 27 governments and districts.

POTATOES—CONTINUED.

Countries	1906	1907	1908	1909	1910
	Bushels	Bushels	Bushels	Bushels	Bushels
Union of South Africa—					
Cape of Good Hope	*s* 1,500,000	*s* 1,500,000	1,304,000	*t* 1,304,000	*t* 1,304,000
Natal	454,000	444,000	405,000	392,000	392,000
Transvaal	*p* 618,000	549,000	519,000	410,000	773,000
Total Union of S. Africa	2,572,000	2,493,000	2,228,000	2,106,000	2,469,000
Total	4,256,000	4,296,000	3,777,000	3,833,000	4,196,000
Australasia					
Australia—					
Queensland	422,000	591,000	492,000	431,000	506,000
New South Wales	1,881,000	4,288,000	2,086,000	2,680,000	3,739,000
Victoria	4,307,000	6,229,000	5,044,000	5,706,000	6,532,000
South Australia	756,000	832,000	756,000	805,000	693,000
Western Australia	235,000	188,000	212,000	250,000	222,000
Tasmania	2,412,000	6,807,000	5,431,000	4,540,000	2,758,000
Total Australia	10,013,000	18,935,000	14,021,000	14,412,000	14,450,000
New Zealand	4,607,000	6,342,000	5,339,000	7,288,000	6,739,000
Total Australasia	14,620,000	25,277,000	19,360,000	21,700,000	21,189,000
Grand total	4,789,112,000	5,121,643,000	5,280,184,000	5,545,707,000	5,196,715,000

p Year preceding.
s Unofficial estimate.
t Data for 1908.

PART III

Crop and Other Statistics For the Year Ending December 31, 1911

Collected by Township Assessors.

In compiling the crop and other farm statistics for the third time under the provisions of Chapter 86, Acts of the Thirty-third General Assembly, it is very evident that the county auditors and township assessors have come to appreciate the value of statistics collected in this manner. The reports from the various county auditors indicate that considerable care has been exercised in compiling the reports, and a greater portion of the reports were on file within the time specified by law. In cases where it was necessary to return reports for correction the error was usually traced to the footings of the assessors' books.

We would like to again call attention to the fact that some provision should be made for diseminating these statistics prior to the time of publication in the Iowa Year Book. Inasmuch as they are collected in about the same manner as the statistics for the state census, and are practically the only authentic figures available on crop production, we believe they are of sufficient value to warrant publication in pamphlet form and given a wide circulation immediately after being compiled.

These statistics are presented in five tables, as follows:

Table No. 1. Gives the total number, average size and total acreage of all farms within the state consisting of five or more acres and situated either inside or outside of the corporate limits of cities and towns; total number of acres occupied by farm buildings, feed lots, groves and highways (Four acres are allowed to each quarter section where highway runs along two sides of same); total acreage in pasture, garden, crop not otherwise enumerated and ground not utilized for any purpose; total acreage in orchard together with total number bushels apples harvested; number of silos in use on Iowa farms; and average monthly wage paid farm help for summer and winter months.

We wish to call attention to the rapid increase in the use of silos over the state during the past three years.

Table No. 2. Contains the total acreage, average yield per acre and total yield, by counties, for the entire state, of the following crops: corn, oats, winter wheat, spring wheat, and barley.

It will be noticed by comparing this table with the estimates of the Iowa Weather and Crop Service to be found in Part I of this edition that there is considerable difference in the figures showing the total yield of corn and wheat. This is due to the fact that the tables compiled by this department are collected direct from farms while those of the Weather and Crop Service are made from estimates of some eight hundred crop reporters over the state.

Table No. 3. Shows the total acreage, yield per acre and total yield of rye, tame hay, wild hay, and potatoes, and total acreage and yield of alfalfa and flax seed for the state.

Table No. 4. Gives number of horses all ages, mules all ages, number of dairy cows and heifers kept for milk, number of cattle not kept for milk, and total number of cattle on farms January 1, 1912; total number of swine on farms July 1, 1911; total number of sheep kept on farms, number shipped in for feeding and sold for slaughter, and total number pounds wool clipped; total number all varieties of poultry on farms July 1, 1911, and estimated total number dozen eggs received during the year 1911.

Table No. 5. Gives the total acreage in sweet corn and pop corn and total acreage and yield of timothy and clover seed by counties for the year 1911.

The following is a brief summary showing acreage, production, average yield per acre, and total value of Iowa farm products for the year 1911.

1911—TABULATED CROP SUMMARY—1911.

	Acreage	Production	Average per acre	Average farm price Dec. 1, 1911	Value per acre	Total value
Corn	8,863,331	326,661,430 bu.	36.9	$ .54	$19.93	$176,397,172
Oats	4,730,687	122,474,893 bu.	25.8	.41	10.58	50,214,706
Winter wheat	360,358	6,451,921 bu.	17.9	.93	16.65	6,000,287
Spring wheat	537,445	6,238,242 bu.	11.6	.86	9.98	5,364,888
Barley	313,472	6,106,239 bu.	19.5	.90	17.55	5,495,615
Rye	44,157	668,443 bu.	15.1	.79	11.93	528,070
Potatoes	117,943	9,125,747 bu.	77.0	.71	54.67	6,479,290
Flax	39,334	178,717 bu.	4.6	2.00	9.20	357,434
Hay (Tame)	3,119,399	2,544,088 T.	.8	13.44	10.75	34,192,543
Hay (Wild)	820,985	662,866 T.	.8	10.28	8.22	6,814,262
Alfalfa	30,323	70,640 T.	2.3	14.00	32.60	988,960
Miscellaneous Crops	80,579	Estimated				8,000,000
Timothy seed	233,318	Estimated				500,000
Clover seed	33,121	Estimated				300,000
Pop corn	12,742	Estimated				250,000
Sweet corn	33,506	Estimated				950,000
Garden truck	47,874	Estimated				1,000,000
Orchards	153,999	Estimated				9,000,000
Pasturage	9,200,220	Estimated				80,000,000
Total value of farm crops						$392,833,227
Wool		Estimated				1,500,000
Dairy products		Estimated				52,000,000
Poultry and eggs		Estimated				30,000,000
Total value farm products						$476,333,227

TABLE NO. 1

Total number, average size and total acreage of farms, total acreage accupied by farm buildings, public highways and feed lots, acreage in pasture, garden, orchard, crops not otherwise enumerated and land not utilized for any purpose. Total number bushels apples harvested, number silos on farms and average monthly wage paid farm help, summer and winter months, by counties, for the year 1911.

Counties	Number of farms	Average size of farms	Total acreage of farms	Total No. acres occupied by farm builnings, public highways and feed lots	Acreage in pasture	Acreage in garden	Acreage in orchard	Number bushels apples harvested	Acreage in crop not otherwise enumerated	Acreage in waste land not utilized for any purpose	Number silos on farms	Average monthly wage paid farm help Summer months	Average monthly wage paid farm help Winter months
Adair	1,959	166	324,53	12,723	114,854	335	2,159	73,983	565	309	9	$ 27.93	$ 21.76
Adams	1,536	160	250,071	8,336	95,774	199	1,665	102,060	457	265	27	30.08	28.87
Allamakee	2,066	173	357,412	8,759	152,113	453	949	40,909	959	13,809	51	21.27	16.50
Appanoose	1,437	145	208,432	6,649	89,918	260	1,568	46,819	688	1.431	23	25.83	25.71
Audubon	1,749	150	262,830	11,149	73,927	175	1,249	44,301	482	272	42	29.53	19.26
Benton	2,279	169	384,241	15,948	99,091	715	1,194	56,582	1,319	629	105	32.21	22.08
Black Hawk	2,031	161	326,929	12,204	96,677	508	1,366	53,417	1,704	1,392	190	29.78	18.37
Boone	2,390	138	328,695	13,745	73,534	512	1,945	78,710	440	1,903	36	27.50	22.00
Bremer	1,772	133	236,192	9,708	63,139	197	480	19,721	1,829	1,070	64	27.16	20.18
Buchanan	2,055	157	323,070	11,669	102,628	460	525	37,630	273	746	52	27.00	22.00
Buena Vista	1,749	186	324,643	16,066	71,749	226	951	24,705	1,619	1,407	46	31.81	25.09
Butler	1,984	165	328,057	14,239	83,593	258	693	32,697	631	1,020	46	27.94	17.34
Calhoun	1,805	197	354,976	14,641	58,277	353	963	29,179	839	3,037	5	29.57	26.37
Carroll	1,787	180	322,278	14,128	70,255	251	1,238	31,532	865	770	11	28.75	19.76
Cass	2,119	160	339,169	14,151	104,220	542	2,347	96,428	292	1,269	20	29.45	23.93
Cedar	2,085	158	330,284	12,328	100,335	205	1,180	60,527	218	1,858	31	29.41	22.14
Cerro Gordo	1,668	195	326,579	14,833	75,554	389	765	34,425	855	981	68	30.16	19.99
Cherokee	1,722	200	344,906	16,046	85,795	337	854	46,106	221	1,096	14	32.78	18.95
Chickasaw	1,744	155	270,356	9,549	73,918	908	243	9,828	2,194	187	49	27.04	18.05
Clarke	1,369	164	224,016	6,578	98,853	535	1,474	48,680	223	1,438	15	24.94	24.79
Clay	1,495	213	318,783	15,037	81,901	179	433	8,416	1,210	2,963	28	31.00	21.00
Clayton	2,666	156	414,976	10,767	162,735	647	1,444	95,731	513	11,492	100	25.90	17.40
Clinton	2,700	147	396,453	13,910	143,241	475	762	26,331	1,158	2,358	37	29.47	19.60
Crawford	2,183	189	411,540	16,438	109.414	270	1,081	34.480	69	1,055	13	27.08	19.94
Dallas	2,195	151	330,352	12,696	89,040	411	2,854	132,837	233	3,565	47	28.22	25.85
Davis	1,956	163	319.214	6,727	128,787	332	1,895	70,987	635	1,337	20	25.04	24.67
Decatur	1,866	124	231,197	7,621	108,479	304	1,412	46,823	844	803	26	25.06	21.00

Delaware	1,983	164	329,011	[illegible]	116,108	386	592	27,456	127	550	108	28.00	19.50
Des Moines	1,092	130	219,262	5,604	82,481	647	2,251	103,130	482	1,345	27	30.00	25.42
Dickinson	880	220	193,936	8,052	49,079	138	249	7,330	973	3,826	7	27.63	24.80
Dubuque	2,169	161	[illegible]	8,842	134,014	965	1,289	87,745	192	4,771	13	29.75	20.39
Emmet	[illegible]	[illegible]	[illegible]	8,548	46,862	123	354	9,144	125	7,421	51	30.50	20.25
Fayette	2,886	[illegible]	[illegible]	17,046	148,486	1,897	789	88,289	1,102	2,058	167	27.13	22.92
Floyd	[illegible]	[illegible]	[illegible]	10,549	63,340	222	429	55,767	856	1,208	[illegible]	29.45	19.74
Franklin	1,879	[illegible]	[illegible]	15,829	84,512	180	971	26,078	570	2,742	40	31.70	26.30
Fremont	[illegible]	161	271,217	8,570	70,354	919	2,965	271,800	559	2,071	8	29.31	22.98
Greene	1,925	166	[illegible]	[illegible]	81,334	255	1,575	44,846	58	1,999	9	28.59	22.03
Grundy	1,600	187	270,601	14,155	71,622	128	432	17,810	130	218	31	29.88	16.50
Guthrie	[illegible]	162	291,216	11,268	114,447	193	1,848	79,084	826	255	24	28.50	----
Hamilton	2,096	168	[illegible]	14,724	81,778	244	1,391	18,830	290	5,889	30	30.03	18.88
Hancock	1,487	209	[illegible]	12,073	70,204	196	503	15,408	549	5,564	93	23.45	19.86
Hardin	1,868	171	310,731	13,347	71,885	5,177	8,340	45,254	3,255	1,179	23	26.12	25.50
Harrison	2,264	[illegible]	[illegible]	16,725	56,308	510	2,400	142,257	[illegible]	9,112	23	29.00	25.60
Henry	1,760	143	240,619	[illegible]	90,002	343	4,223	85,830	299	1,083	31	27.86	22.38
Howard	[illegible]	170	[illegible]	[illegible]	72,519	320	370	17,140	941	1,821	78	33.95	17.22
Humboldt	[illegible]	189	[illegible]	[illegible]	48,391	147	619	16,648	723	3,904	49	30.52	19.36
Ida	1,336	130	[illegible]	11,527	62,000	129	680	22,484	60	191	20	31.80	19.44
Iowa	[illegible]	160	[illegible]	11,131	100,605	600	1,426	102,979	7,147	1,909	87	29.11	21.28
Jackson	[illegible]	167	[illegible]	8,761	165,476	525	1,084	[illegible]	275	11,750	22	29.20	21.09
Jasper	2,513	144	[illegible]	[illegible]	148,957	428	2,978	95,619	134	661	20	28.12	26.68
Jefferson	1,749	120	256,610	[illegible]	94,633	200	1,362	74,363	827	904	17	27.18	26.00
Johnson	2,122	146	316,633	[illegible]	107,078	441	1,600	116,608	626	934	65	29.00	23.00
Jones	[illegible]	[illegible]	[illegible]	[illegible]	115,017	180	704	[illegible]	673	1,734	51	26.70	21.10
Keokuk	2,105	124	371,763	11,791	123,425	540	2,364	115,885	455	2,497	50	27.11	25.43
Kossuth	[illegible]	218	[illegible]	22,351	120,399	405	715	21,794	1,230	13,068	4	28.27	16.45
Lee	1,095	137	[illegible]	6,441	108,156	309	2,021	60,712	652	1,262	3	25.37	22.15
Linn	2,945	[illegible]	306,791	[illegible]	120,555	1,076	1,660	78,905	450	3,074	134	27.39	23.55
Louisa	1,198	158	178,569	3,381	53,699	209	1,498	80,732	1,699	1,692	5	29.33	26.37
Lucas	1,504	163	234,744	[illegible]	101,166	150	1,119	43,603	76	678	13	25.45	21.54
Lyon	1,411	[illegible]	197,290	[illegible]	61,490	3,038	2,035	81,575	153	524	30	29.78	24.46
Madison	[illegible]	140	299,483	11,250	108,691	486	2,269	95,997	954	4,098	10	26.98	26.48
Mahaska	2,576	130	[illegible]	[illegible]	101,244	361	2,512	184,569	309	1,875	31	27.19	23.78
Marion	2,251	141	336,244	[illegible]	104,322	238	1,953	71,181	1,205	2,297	6	25.8	25.14
Marshall	2,181	162	[illegible]	[illegible]	87,703	521	702	78,541	345	1,399	59	29.50	23.66
Mills	1,317	164	216,540	7,991	58,481	208	3,276	267,484	354	2,038	11	31.66	28.11
Mitchell	1,658	166	276,060	13,127	60,304	210	611	17,091	2,178	1,649	31	26.59	19.07
Monona	2,218	192	456,407	13,180	118,227	327	1,594	76,887	3,782	11,732	17	27.08	26.09
Monroe	1,360	149	218,917	[illegible]	108,683	350	1,381	69,625	48	5,329	40	27.50	24.27
Montgomery	1,551	172	266,808	8,977	71,702	277	1,858	76,173	85	771	20	30.20	23.71
Muscatine	1,344	147	[illegible]	13,090	77,719	1,320	1,347	82,409	2,463	2,045	62	29.52	24.04
O'Brien	1,600	191	[illegible]	[illegible]	76,705	104	305	13,016	398	170	10	30.17	19.66
Osceola	1,076	225	230,608	10,727	17,466	222	181	3,443	630	2,793	10	25.00	29.50
Page	2,199	146	[illegible]	13,410	106,949	200	2,957	146,768	[illegible]	2,174	14	32.50	27.19
Palo Alto	1,330	211	282,065	10,240	63,850	795	1,658	75,775	1,274	782	16	26.58	20.51
Plymouth	2,558	193	493,367	26,150	111,430	577	874	27,213	953	600	3	30.30	14.33

TABLE NO. 1—CONTINUED

Counties	Number of farms	Average size of farms	Total acreage of farms	Total No. acres occupied by farm buildings, public highways and feed lots	Acreage in pasture	Acreage in garden	Acreage in orchard	Number bushels apples harvested	Acreage in crop not otherwise enumerated	Acreage in waste land not utilized for any purpose	Number silos on farms	Average monthly wage paid farm help Summer months	Average monthly wage paid farm help Winter months
Pocahontas	1,843	186	343,451	14,377	67,922	344	1,498	23,148	2,404	3,543	32	31.00	26.85
Polk	2,292	126	288,534	15,066	75,360	597	6,223	154,622	1,238	2,740	111	29.20	22.10
Pottawattamie	3,044	166	504,716	19,391	130,372	848	5,364	232,607	394	399	19	30.13	22.60
Poweshiek	2,005	167	334,044	10,167	113,904	398	1,661	88,324	51	607	90	29.35	22.70
Ringgold	1,844	165	303,625	9,658	112,161	252	2,068	75,504	263	1,019	20	26.38	26.13
Sac	1,846	186	343,005	16,220	79,675	295	1,269	48,747	1,118	2,127	13	30.29	23.63
Scott	2,331	114	266,496	9,344	77,679	1,030	1,618	98,211	242	602	85	31.93	18.56
Shelby	2,050	171	351,498	14,335	91,259	434	1,043	73,903	252	551	13	30.73	19.75
Sioux	2,826	157	443,732	18,857	81,881	162	365	16,878	292	387	67	28.14	18.12
Story	2,092	155	323,802	13,191	69,890	188	816	41,932	290	685	68	30.70	24.96
Tama	2,355	176	413,654	17,681	120,615	517	1,308	61,438	369	3,536	66	31.00	20.90
Taylor	1,700	154	261,304	9,907	95,634	427	2,632	114,798	167	502	21	25.72	24.20
Union	1,511	156	235,657	9,351	89,787	307	1,800	77,291	69	1,888	8	26.21	25.26
Van Buren	1,851	145	268,927	7,389	134,328	225	2,856	85,388	312	814	28	27.42	24.28
Wapello	1,663	124	206,153	6,178	88,914	375	2,110	98,348	1,525	1,395	32	27.91	26.99
Warren	2,211	138	296,772	12,537	115,329	563	3,988	117,928	208	3,189	59	29.00	26.00
Washington	1,961	150	293,229	10,127	101,510	219	1,867	104,568	1,477	352	21	29.22	25.43
Wayne	1,710	161	275,577	10,062	99,511	372	1,294	28,481	348	372	40	25.92	26.34
Webster	2,356	177	417,167	14,463	98,771	217	1,017	40,729	565	7,880	33	30.23	25.19
Winnebago	1,391	167	231,866	12,256	58,893	32	355	15,014	329	3,550	56	24.50	19.10
Winneshiek	2,729	145	406,089	13,786	140,453	535	845	42,677	1,769	10,454	89	25.78	17.95
Woodbury	2,410	181	437,089	16,386	99,653	606	1,402	68,316	493	648	19	32.04	27.45
Worth	1,349	176	236,882	12,510	57,053	284	425	14,902	641	3,908	30	28.85	15.58
Wright	1,754	188	329,539	14,022	70,980	287	654	15,488	241	5,250	60	35.00	25.00
Total	190,224	1,629	30,996,945	1,201,945	9,200,220	47,974	153,999	6,603,838	80,579	254,672	4,006	$ 28.61	$ 22.35

TABLE NO. 2

Acreage; yield per acre and total yield of Corn, Oats, Winter Wheat, Spring Wheat and Barley, by counties for the year of 1911.

Counties	Corn			Oats			Winter Wheat			Spring Wheat			Barley		
	Acres	Bu. per acre	Total bushels	Acres	Bu. per acre	Total bushels	Acres	Bu. per acre	Total bushels	Acres	Bu. per acre	Total bushels	Acres	Bu. per acre	Total bushels
Adair	93,425	33	3,110,118	31,462	22	705,928	509	25	12,516	4,388	13	59,092	1,674	18	29,307
Adams	65,248	31	2,041,125	22,900	21	473,450	3,392	25	84,789	1,789	11	14,991	627	16	10,263
Allamakee	40,129	42	1,680,392	37,407	29	1,092,575	1,061	20	21,411	2,330	14	32,165	14,127	24	340,417
Appanoose	38,800	25	971,080	15,019	19	284,673	2,573	8	19,103	171	9	1,614	74	23	1,665
Audubon	82,916	36	2,988,999	37,233	27	988,192	502	24	11,813	7,017	13	93,636	4,134	24	97,728
Benton	129,731	47	6,093,199	80,119	31	2,483,706	718	20	14,411	2,406	12	29,141	7,350	29	209,742
Black Hawk	98,576	43	4,262,546	57,540	33	1,872,079	1,186	24	28,519	1,096	11	12,233	3,280	26	86,654
Boone	114,029	35	4,008,976	62,146	30	1,888,175	606	23	14,092	2,445	13	32,294	222	21	4,686
Bremer	59,955	42	2,526,365	51,637	33	1,723,064	165	25	4,120	677	13	8,525	2,501	27	67,451
Buchanan	87,528	45	3,960,569	53,304	35	1,845,768	1,191	19	22,233	1,352	11	14,364	2,093	24	51,232
Buena Vista	103,028	38	3,878,052	75,650	22	1,647,760	208	11	2,266	1,110	13	14,274	839	16	14,677
Butler	99,209	38	3,780,872	68,900	34	2,357,511	418	19	8,115	1,399	10	13,973	1,247	23	28,842
Calhoun	118,751	41	4,925,261	102,959	25	2,576,802	343	11	3,919	402	13	5,202	554	19	10,758
Carroll	103,124	33	3,378,826	62,628	27	1,699,603	378	20	7,555	7,090	14	95,358	2,575	20	51,958
Cass	101,589	33	3,376,095	36,383	25	891,476	7,353	23	166,501	12,703	13	162,645	1,382	20	28,146
Cedar	101,798	56	5,655,839	37,938	33	1,242,950	5,765	21	120,286	3,621	8	29,917	9,587	23	224,442
Cerro Gordo	91,273	33	3,014,162	72,625	28	2,043,006	445	13	5,932	2,043	11	21,594	2,777	17	48,405
Cherokee	111,758	41	4,584,306	75,274	21	1,616,661	192	20	3,760	1,285	14	17,786	2,751	13	34,961
Chickasaw	62,405	35	2,175,169	52,759	31	1,619,829	233	27	6,170	4,683	9	45,361	4,586	21	95,965
Clarke	51,671	21	1,087,249	20,226	23	463,614	1,639	18	28,925	231	10	2,381	149	14	2,139
Clay	86,290	27	2,301,312	70,771	18	1,267,327	67	18	1,217	2,069	12	24,011	1,649	14	22,455
Clayton	68,822	47	3,216,444	62,611	31	1,937,496	1,991	21	41,885	2,054	11	22,956	13,670	26	351,737
Clinton	108,949	48	5,267,400	44,150	27	1,212,738	8,431	20	168,339	3,883	10	39,344	5,786	26	151,678
Crawford	131,116	33	4,322,151	56,854	22	1,235,358	1,130	19	21,488	20,378	11	215,330	4,941	14	79,486
Dallas	110,799	35	3,862,371	51,810	29	1,515,572	3,102	24	73,040	3,821	14	52,615	720	22	15,583
Davis	50,423	25	1,281,648	19,515	18	348,710	5,897	8	45,417	173	7	1,183	6	13	75
Decatur	61,494	27	1,688,872	22,638	21	470,028	3,472	14	47,060	163	8	1,240	15	7	100
Delaware	89,559	48	4,273,033	47,113	30	1,411,133	266	16	4,185	877	10	8,467	10,646	26	272,771
Des Moines	61,424	47	2,917,402	22,721	24	555,131	9,181	10	91,763	1,587	7	10,538	549	14	7,715

TABLE NO. 2—CONTINUED

Counties	Corn			Oats			Winter Wheat			Spring Wheat			Barley		
	Acres	Bu. per acre	Total bushels	Acres	Bu. per acre	Total bushels	Acres	Bu. per acre	Total bushels	Acres	Bu. per acre	Total bushels	Acres	Bu. per acre	Total bushels
Dickinson	45,820	27	1,258,546	36,096	12	446,856	9	13	120	4,897	10	48,970	2,543	8	19,065
Dubuque	63,481	52	3,277,278	51,320	34	1,768,616	486	18	8,598	1,466	14	19,907	3,716	26	97,091
Emmet	48,436	32	1,550,372	37,588	16	698,907	19	11	201	3,820	12	46,787	1,699	14	24,371
Fayette	93,647	42	3,932,004	72,753	32	2,368,246	595	20	11,821	2,388	9	20,696	7,738	24	182,912
Floyd	81,663	33	2,673,048	72,181	27	1,971,517	272	12	5,295	2,991	12	36,879	1,771	23	41,007
Franklin	104,137	34	3,570,871	84,063	30	2,507,357	482	16	7,853	2,091	12	24,697	1,618	23	56,697
Fremont	115,409	29	3,299,623	14,672	19	271,217	15,910	21	331,720	8,300	11	95,369	100	24	2,358
Greene	126,420	31	3,903,031	62,457	28	1,790,199	258	22	5,545	1,052	12	12,467	830	16	13,154
Grundy	100,869	42	4,227,973	70,260	38	2,701,400	807	19	15,603	1,104	12	14,624	3,062	21	84,725
Guthrie	92,845	31	2,843,100	46,050	26	1,177,208	712	26	18,614	4,090	14	58,159	1,123	15	17,318
Hamilton	109,432	49	5,295,234	73,014	36	2,604,638	1,217	21	25,983	2,232	12	27,894	125	23	2,929
Hancock	84,063	26	2,165,450	69,695	21	1,441,224	252	11	2,791	6,524	11	68,650	3,506	14	47,544
Hardin	92,800	46	4,261,210	58,941	34	1,981,750	1,321	17	23,094	2,435	11	27,622	1,113	13	14,483
Harrison	133,278	28	3,756,549	23,811	17	410,164	11,903	18	215,995	28,217	13	357,297	1,566	17	26,954
Henry	71,042	45	3,162,360	29,580	31	909,625	5,152	11	56,089	642	9	5,534	83	11	954
Howard	50,685	28	1,461,672	48,934	27	1,305,994	630	18	11,645	4,358	10	43,725	8,623	21	178,753
Humboldt	76,213	32	2,442,294	56,381	27	1,528,472	269	14	3,826	5,415	13	69,693	1,062	12	12,901
Ida	87,923	35	3,038,937	47,500	22	1,021,261	173	16	2,784	3,386	12	40,875	7,281	13	97,247
Iowa	90,883	52	4,733,469	41,576	30	1,266,341	1,608	19	29,808	3,301	8	27,990	1,361	14	18,962
Jackson	62,622	48	3,000,302	34,600	30	1,037,544	2,655	19	51,365	3,062	11	35,157	3,565	25	90,329
Jasper	134,253	41	5,564,034	51,080	25	1,278,693	4,133	16	64,511	10,403	10	102,813	389	20	7,586
Jefferson	57,226	31	1,803,139	23,119	23	526,591	8,646	13	110,400	1,978	9	18,278	278	13	3,690
Johnson	85,537	52	4,291,643	39,682	31	1,249,105	5,808	19	111,324	4,151	9	39,391	995	24	24,802
Jones	79,076	48	3,800,806	35,556	32	1,152,962	495	19	9,281	1,348	9	11,974	6,342	29	181,028
Keokuk	97,561	41	3,991,329	35,941	23	825,952	3,482	13	45,092	5,765	8	45,294	900	16	14,127
Kossuth	138,071	27	3,703,818	115,056	18	2,014,974	317	9	2,995	10,870	12	129,581	2,892	14	41,442
Lee	45,662	31	1,420,081	18,397	20	362,014	13,337	9	114,834	50	8	416	260	14	3,600
Linn	102,937	48	4,945,512	54,966	34	1,879,812	1,465	19	28,488	3,680	11	39,780	2,248	18	39,190
Louisa	55,646	48	2,671,642	17,444	25	440,525	10,057	15	148,626	1,964	6	12,325	112	13	1,462
Lucas	46,917	28	1,306,055	18,967	31	592,842	3,627	19	67,549	1,578	13	20,354	8	25	200
Lyon	100,305	30	2,964,843	82,879	9	722,765	340	13	4,319	4,995	10	47,964	13,103	5	61,518
Madison	81,702	31	2,547,137	26,513	23	604,904	2,145	24	51,393	3,389	13	45,139	1,732	17	28,787

Mahaska	92,499	41	3,789,930	35,017	23	810,014	2,523	17	42,029	5,511	9	51,441	956	15	14,618
Marion	93,758	35	3,312,752	27,168	28	759,984	5,707	20	112,295	8,922	11	100,352	1,817	22	40,424
Marshall	112,181	47	5,302,429	61,603	30	1,876,672	6,103	22	132,088	3,962	13	51,553	411	23	9,462
Mills	80,048	27	2,150,897	21,371	19	409,723	9,611	23	224,029	6,461	12	74,683	415	17	6,945
Mitchell	67,983	33	2,252,183	75,944	26	1,091,922	416	14	6,016	4,631	13	58,384	5,496	21	117,376
Monona	135,828	36	4,902,458	27,103	15	411,114	26,114	15	490,429	21,331	13	278,991	2,322	15	34,890
Monroe	36,789	28	1,0 8,312	9,801	27	261,047	4,285	16	66,423	5,218	11	59,847	28	28	797
Montgomery	85,663	26	2,222,564	16,681	20	335,527	11,745	14	283,451	10,592	10	110,789	465	20	9,108
Muscatine	64,822	50	3,214,306	19,036	27	505,507	11,234	14	155,454	2,750	8	21,424	4,860	18	85,966
O'Brien	102,544	34	3,486,749	76,700	17	1,270,380	154	14	2,167	3,934	9	34,690	9,439	12	114,423
Osceola	63,350	29	1,823,595	58,930	16	918,929	143	9	1,219	1,867	11	19,898	7,264	10	74,482
Page	103,937	26	2,684,870	20,321	26	537,659	17,775	23	412,865	7,967	13	102,201	425	21	8,713
Palo Alto	71,500	26	1,861,252	55,671	14	757,740	288	10	2,796	1,898	10	19,171	686	12	8,456
Plymouth	166,658	33	5,537,560	82,513	29	2,430,618	2,680	13	35,097	36,518	12	451,966	7,175	12	89,066
Pocahontas	112,105	43	4,776,080	86,813	34	2,940,982	223	14	3,095	1,920	14	25,892	499	22	11,132
Polk	94,411	32	3,023,823	34,611	24	828,872	11,108	17	184,008	11,671	11	126,676	66	22	1,453
Pottawattamie	189,675	25	4,792,181	42,864	20	854,906	12,077	23	279,041	23,780	11	269,968	2,189	20	46,589
Poweshiek	103,997	47	4,884,722	44,781	22	994,383	696	15	10,508	4,572	7	32,219	1,504	18	27,476
Ringgold	67,433	24	1,619,316	25,182	15	470,047	2,387	18	42,409	107	8	804	16	8	129
Sac	111,891	39	4,371,909	73,870	27	2,005,373	198	23	4,580	1,709	14	23,816	3,408	21	72,252
Scott	74,502	54	4,016,056	22,499	29	655,832	12,325	22	277,049	4,791	12	56,524	17,312	22	387,946
Shelby	158,380	33	4,283,561	43,258	24	1,045,458	985	20	19,441	14,894	13	192,693	8,024	10	161,539
Sioux	153,630	35	5,303,462	88,087	16	1,445,169	970	9	8,985	23,478	13	305,590	19,219	11	217,127
Story	115,082	48	5,541,648	62,620	31	1,931,920	1,871	19	36,435	2,353	13	29,474	228	16	3,727
Tama	121,875	44	5,432,944	68,627	31	2,101,554	1,611	20	31,579	7,141	12	88,831	6,007	15	149,005
Taylor	68,452	23	1,602,185	23,356	21	584,739	5,630	22	123,913	1,070	12	13,003	390	21	8,139
Union	60,649	25	1,544,207	23,739	20	474,143	582	18	10,597	822	10	8,369	215	13	2,787
Van Buren	45,770	36	1,551,487	18,447	17	311,238	9,030	8	76,219	161	4	610	178	11	1,912
Wapello	54,040	30	1,605,640	18,516	21	387,726	8,964	17	155,053	1,146	8	9,558	362	13	4,779
Warren	81,777	21	1,704,670	21,474	19	402,558	13,122	16	203,900	6,744	9	61,758	367	13	4,762
Wayne	63,631	26	1,650,518	27,311	25	675,55	1,837	12	22,110	133	10	1,348	5	8	12
Webster	125,947	42	5,287,276	94,905	31	2,983,474	473	19	8,753	4,932	15	73,034	298	21	5,727
Winnebago	54,460	27	1,461,445	33,550	17	546,300	28	13	351	17,402	11	197,282	2,672	18	47,516
Winnishiek	71,815	39	2,798,773	63,874	24	1,581,320	504	22	11,108	13,801	11	146,002	18,254	22	410,125
Woodbury	168,468	39	6,577,775	55,983	17	967,621	10,913	21	226,002	14,385	13	182,424	3,811	17	63,028
Worth	49,416	34	1,657,471	44,830	26	1,163,188	124	15	1,886	17,240	12	208,258	3,031	21	62,911
Wright	100,515	37	3,738,843	78,058	31	2,398,840	359	16	5,826	3,179	13	39,984	1,106	25	27,629
Washington	87,420	51	4,447,067	40,299	28	1,117,162	4,558	16	74,293	3,475	9	30,174	227	25	5,616
Total	8,863,331	36.9	326,661,430	4,730,687	25.8	122,474,893	360,358	17.9	6,451,921	537,445	11.6	6,238,242	313,472	19.5	6,106,239

TABLE NO. 3

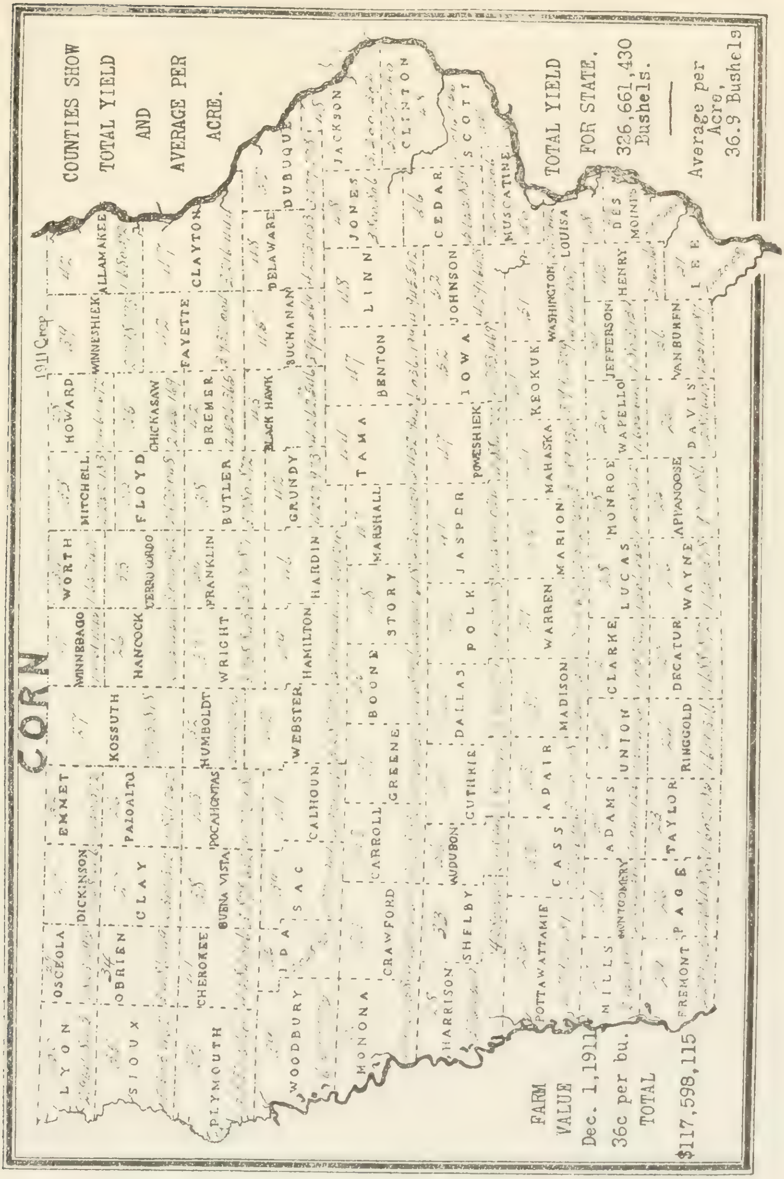
Acreage, yield per acre and total yield of rye, tame hay, wild hay, alfalfa, potatoes and flax seed, by counties, for the year of 1911.

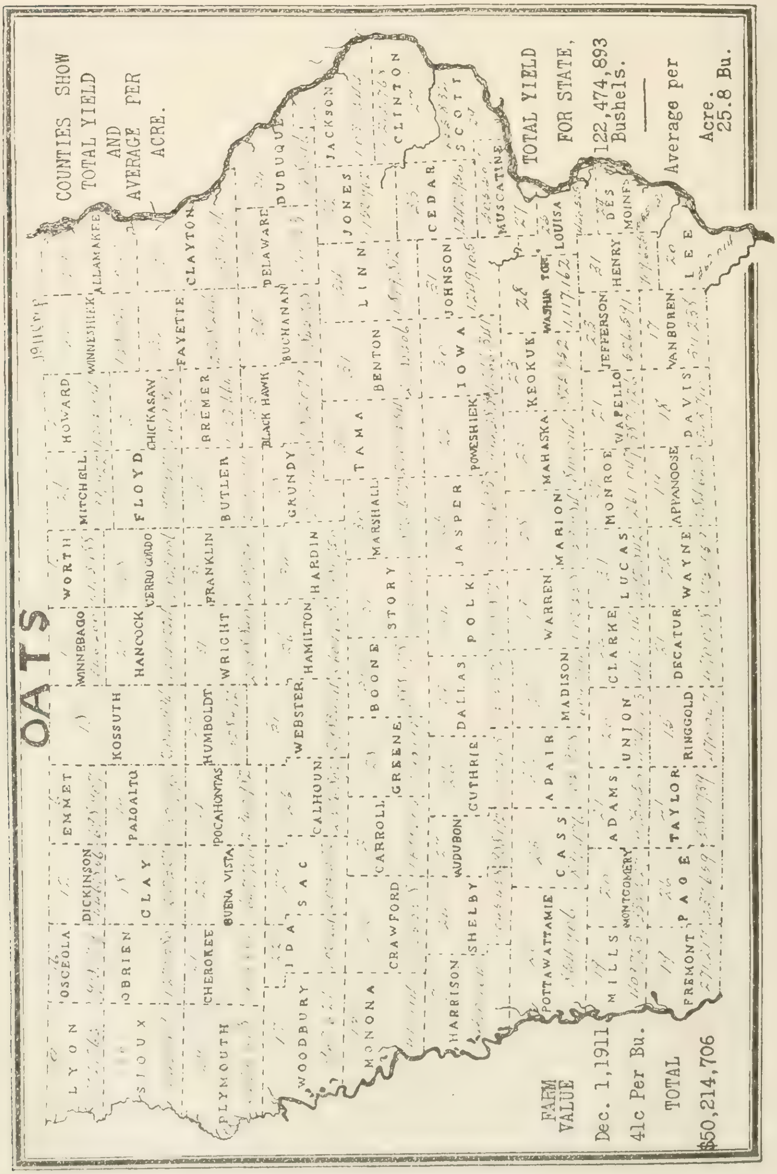
Counties	Rye			Hay (tame)			Hay (wild)			Alfalfa		Potatoes			Flax Seed	
	Acres	Bu. per acre	Total bushels	Acres	Tons per acre	Total tons	Acres	Tons per acre	Total tons	Acres	Total tons	Acres	Bu. per acre	Total bushels	Acres	Total bushels
Adair	129	11	1,426	44,058	.9	39,805	4,805	1.4	5,489	36	55	1,131	67	75,585	--------	--------
Adams	18	11	295	34,246	.9	29,071	1,745	1.0	1,666	46	104	393	48	18,836	--------	--------
Allamakee	954	17	15,956	38,643	1.2	45,880	1,212	1.2	1,512	17	20	1,112	114	126,782	39	234
Appanoose	21	7	152	36,298	.7	24,042	1,020	1.3	1,365	2	4	194	40	7,762	--------	--------
Audubon	154	13	2,002	31,080	.9	27,231	2,474	1.5	3,832	78	109	1,050	64	65,691	--------	--------
Benton	1,151	16	18,410	36,447	1.1	40,980	4,742	1.0	4,779	21	30	1,371	77	104,713	--------	--------
Black Hawk	2,234	14	30,273	31,603	1.1	34,674	9,999	1.0	10,205	18	10	1,518	72	109,569	33	100
Boone	88	14	1,233	27,239	.8	21,277	14,005	.8	11,252	36	80	1,075	50	53,761	33	222
Buchanan	1,148	17	19,066	36,435	1.2	45,088	13,244	1.0	13,365	5	8	1,282	54	59,728	5	30
Bremer	996	21	20,848	19,318	1.1	20,517	20,528	1.0	20,033	--------	--------	1,213	69	83,665	--------	--------
Buena Vista	19	16	300	24,106	.6	13,829	17,398	.7	13,080	66	91	1,789	78	140,247	685	4,903
Butler	2,870	12	35,343	25,632	1.0	25,168	10,701	1.0	9,933	--------	--------	1,370	75	103,261	46	320
Calhoun	15	12	175	19,770	.8	16,499	14,721	.8	11,754	25	48	1,109	55	61,028	399	2,078
Carroll	28	15	420	23,724	.9	21,400	10,571	1.1	11,132	19	37	2,022	87	176,060	17	60
Cass	47	16	749	41,068	1.0	42,719	1,798	1.4	2,563	119	385	1,425	63	89,728	--------	--------
Cedar	488	16	7,851	43,512	1.0	45,521	256	.7	165	18	33	1,003	95	95,069	--------	--------
Cerro Gordo	119	17	2,052	31,754	.7	20,621	13,895	.7	10,054	15	41	1,221	87	106,656	1,227	6,914
Cherokee	20	11	219	27,535	.5	14,799	10,291	.7	7,483	216	438	1,786	77	136,765	19	228
Chickasaw	486	22	10,485	27,219	.9	25,105	12,116	.9	11,423	--------	--------	1,058	72	76,672	585	4,550
Clarke	26	11	286	39,184	.5	17,989	163	.4	65	--------	--------	586	30	17,470	--------	--------
Clay	76	15	1,130	25,053	.4	10,033	22,784	.6	13,482	25	15	999	76	76,162	2,109	6,118
Clayton	1,990	18	35,824	53,786	1.2	66,166	1,275	1.4	1,775	22	59	1,824	96	175,685	5	63
Clinton	1,698	15	25,463	57,832	1.0	59,064	3,243	1.2	3,889	--------	--------	2,076	100	208,225	--------	--------
Crawford	62	17	1,051	43,695	.8	32,938	6,378	1.1	7,020	336	719	2,110	67	141,692	--------	--------
Dallas	73	17	1,241	29,225	.9	24,850	5,576	.7	4,164	100	167	689	60	41,448	--------	--------
Davis	199	8	1,594	40,899	.5	19,918	70	1.2	85	10	14	380	28	10,574	--------	--------
Decatur	114	12	1,347	36,142	.6	21,643	404	.5	202	25	10	215	28	5,919	--------	--------
Delaware	1,589	15	23,868	39,758	1.2	45,813	6,723	1.1	7,287	2	7	994	87	86,704	--------	--------
Des Moines	212	10	2,119	23,915	.6	14,280	358	1.3	458	36	75	945	38	35,952	--------	--------

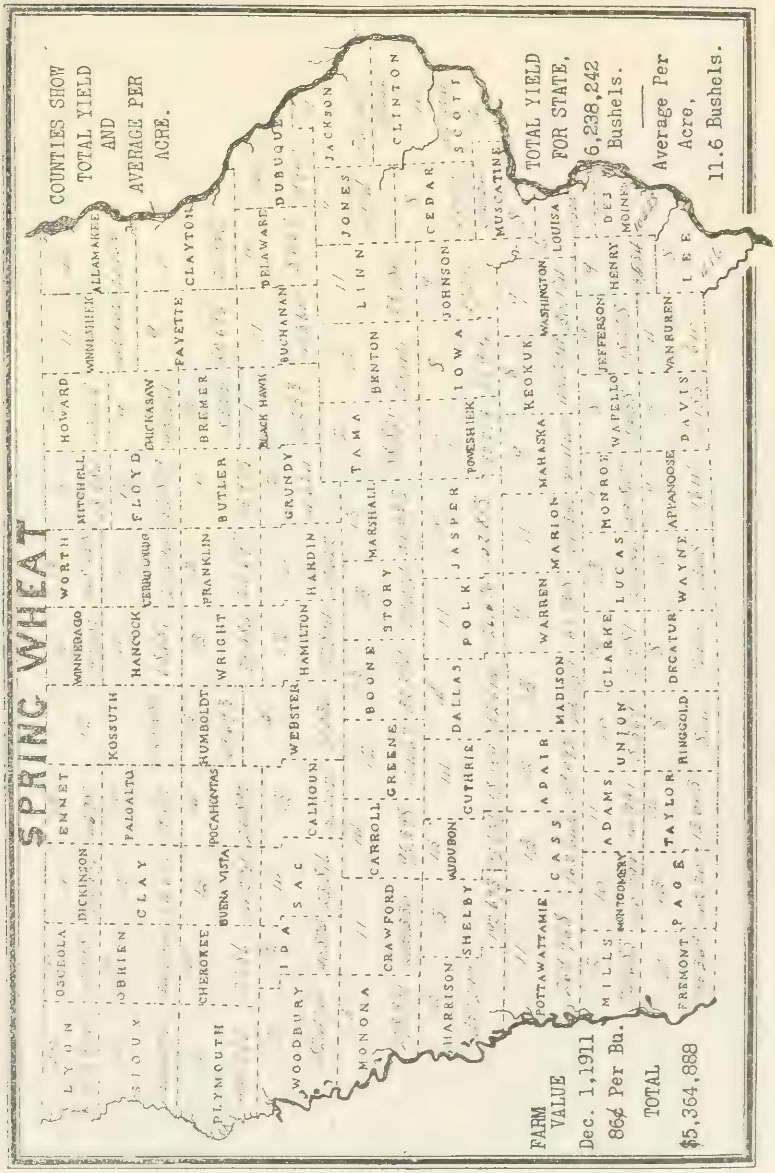
Dickinson	28	10	280	10,121	.4	3,470	18,898	.5	9,436	20	40	591	86	50,612	1,264	3,963
Dubuque	860	17	11,837	51,909	1.0	53,45	653	1.6	1,032	52	86	1,975	124	244,343	-------	-------
Emmet	38	19	729	15,896	.4	6,271	15,274	.6	9,073	-------	-------	840	78	68,415	2,052	5,717
Fayette	1,580	19	30,151	48,494	1.2	57,557	13,088	1.0	12,142	22	75	1,418	88	124,571	223	1,453
Floyd	992	20	20,088	28,013	1.0	26,080	5,560	.9	5,164	5	3	1,290	113	145,564	339	2,727
Franklin	92	16	1,472	29,758	.9	26,900	14,235	.8	11,291	28	58	2,028	65	132,956	498	2,778
Fremont	170	17	2,806	15,684	.8	12,070	5,778	1.1	6,586	2,404	6,938	554	37	20,604	-------	-------
Greene	33	18	580	27,894	.8	21,767	11,273	.8	9,077	11	41	872	53	46,481	159	761
Grundy	89	17	1,487	23,544	1.0	24,462	7,493	1.0	7,777	2	3	3,712	80	296,561	-------	-------
Guthrie	53	14	754	33,686	1.0	32,235	4,536	.9	4,259	31	30	553	72	39,753	-------	-------
Hamilton	11	37	413	27,601	1.0	28,611	11,454	.9	13,659	43	127	809	64	52,149	353	2,934
Hancock	93	16	1,492	22,363	.6	12,737	22,376	.7	16,705	10	81	1,090	77	84,133	973	2,698
Hardin	2	20	40	27,220	1.2	32,198	11,239	1.2	13,435	24	79	1,536	58	88,923	79	790
Harrison	182	16	2,922	15,322	.7	10,747	10,702	1.3	14,317	5,354	10,885	1,134	43	48,523	7	31
Henry	348	12	4,126	26,411	.6	15,956	7	.9	6	25	67	413	10	16,434	-------	-------
Howard	381	19	7,331	31,000	.8	24,177	9,565	.8	7,413	2	5	881	102	89,936	2,724	18,554
Humboldt	44	14	778	21,457	.7	15,101	15,040	.6	9,763	38	52	760	68	51,991	894	2,826
Ida	36	8	282	28,636	.5	15,210	2,423	.8	1,989	34	72	945	66	62,050	-------	-------
Iowa	367	20	7,185	34,925	.9	30,997	893	1.1	1,005	17	37	1,394	76	105,470	-------	-------
Jackson	3,148	15	47,024	54,323	1.1	56,923	2,471	1.1	3,473	22	28	1,090	115	126,161	-------	-------
Jasper	157	13	2,028	43,027	.7	32,161	1,361	1.0	1,360	9	31	1,028	65	66,919	75	475
Jefferson	138	15	2,110	32,598	.5	17,675	9	1.2	11	14	36	354	42	14,979	-------	-------
Johnson	1,179	18	20,755	42,736	1.0	44,345	835	1.0	876	7	17	1,33	77	102,367	-------	-------
Jones	1,223	16	19,390	46,902	1.1	54,154	610	1.2	757	18	18	78	118	92,412	18	33
Keokuk	320	12	3,949	50,602	.6	28,483	149	1.5	229	11	30	839	54	44,898	-------	-------
Kossuth	14	10	135	31,583	.5	14,456	60,588	.6	34,347	9	17	2,32	65	152,228	2,740	8,044
Lee	2,157	11	24,045	32,431	.5	15,814	185	.8	147	22	30	89	48	42,559	-------	-------
Linn	1,108	16	18,294	46,485	1.2	53,643	3,063	1.1	4,075	14	17	1,84	64	118,112	-------	-------
Lucas	34	16	558	23,573	.7	16,970	175	.8	138	6	6	137	48	6,487	-------	-------
Louisa	1,065	8	8,879	15,928	.9	13,949	768	.7	499	13	7	279	74	20,676	-------	-------
Lyon	48	9	449	13,038	1.2	15,495	11,036	.7	7,307	88	109	1,869	104	193,790	243	617
Madison	296	9	2,382	34,630	.8	26,798	1,578	.8	1,268	20	69	765	62	47,325	-------	-------
Mahaska	269	15	3,930	32,513	.7	22,169	486	1.0	518	31	52	700	59	41,553	18	25
Marion	929	12	11,601	31,529	.7	22,874	573	1.0	586	9	30	765	49	37,797	-------	-------
Marshall	118	13	1,495	38,701	.8	29,776	1,188	.9	1,110	23	17	1,867	67	124,083	-------	-------
Mills	185	18	3,266	16,535	.7	12,275	3,526	1.1	[illegible]	3,444	8,950	467	35	16,378	-------	-------
Mitchell	26	23	584	26,350	.8	22,124	2,429	.8	1,949	-------	-------	1,250	134	169,729	3,937	18,113
Monona	206	12	2,504	15,060	.7	10,772	43,864	.5	23,018	4,228	11,328	1,111	63	69,545	82	200
Monroe	100	18	1,792	29,212	.5	16,750	30	.9	27	5	9	238	36	8,538	-------	-------
Montgomery	92	15	1,345	33,320	.7	23,053	879	1.4	1,189	586	1,111	523	45	23,449	-------	-------
Muscatine	2,450	10	26,068	25,971	1.1	29,196	940	.9	850	73	178	2,232	100	223,22	-------	-------
O'Brien	55	18	1,002	22,154	.4	9,474	9,323	.8	7,789	25	27	1,796	83	148,343	595	2,532
Osceola	23	13	289	13,917	.3	4,527	10,144	.6	5,971	1	1	1,176	92	108,002	2,458	9,110
Page	296	17	5,081	34,978	.9	31,551	1,311	1.0	1,251	196	952	624	39	24,309	-------	-------
Palo Alto	86	12	1,023	12,503	.4	4,448	36,547	.7	19,827	5	3	839	65	54,499	1,785	2,462
Plymouth	17	5	82	27,438	.5	14,989	27,224	.7	18,552	1,127	2,941	3,424	60	205,774	117	905
Pocahontas	32	23	726	17,030	.7	12,075	26,573	.7	18,952	36	133	1,308	58	75,969	1,944	6,144
Polk	193	28	5,414	27,711	.7	18,958	4,756	1.1	5,176	71	153	1,542	49	75,968	12	40
Pottawattamie	657	7	4,906	41,439	.7	29,337	9,744	1.1	10,678	6,177	12,971	2,249	44	98,014	12	35

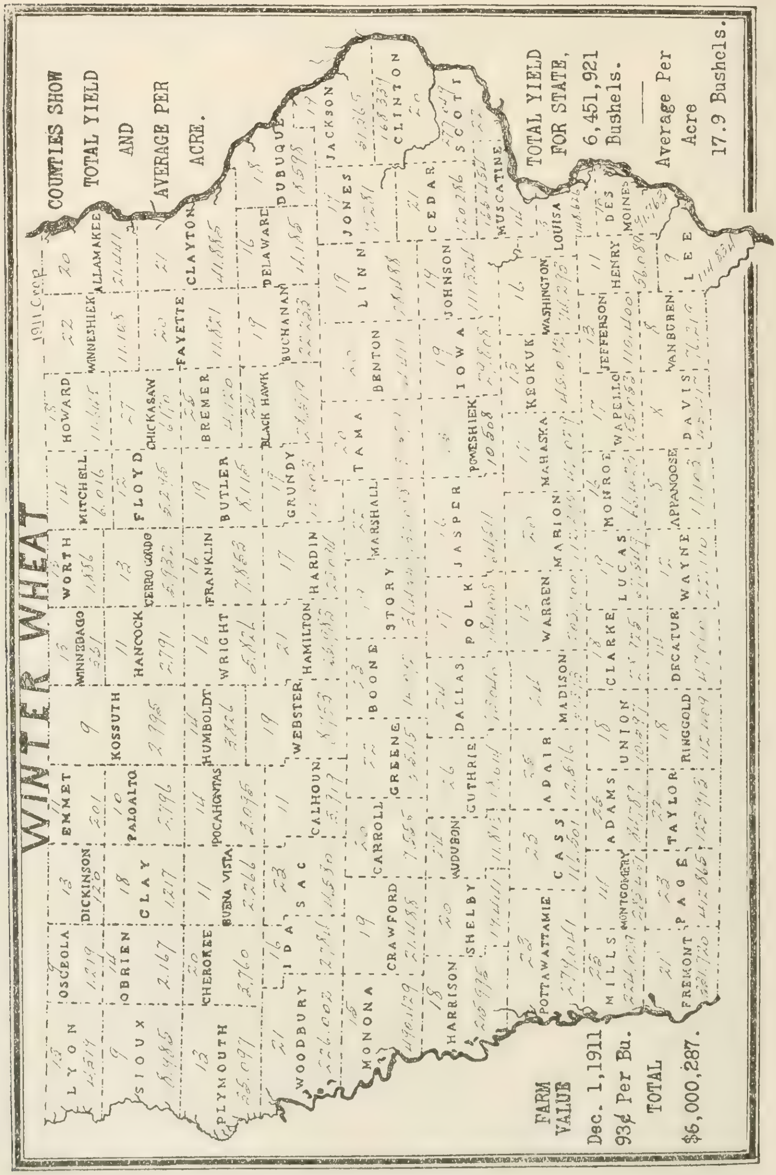
TABLE NO. 3—CONTINUED

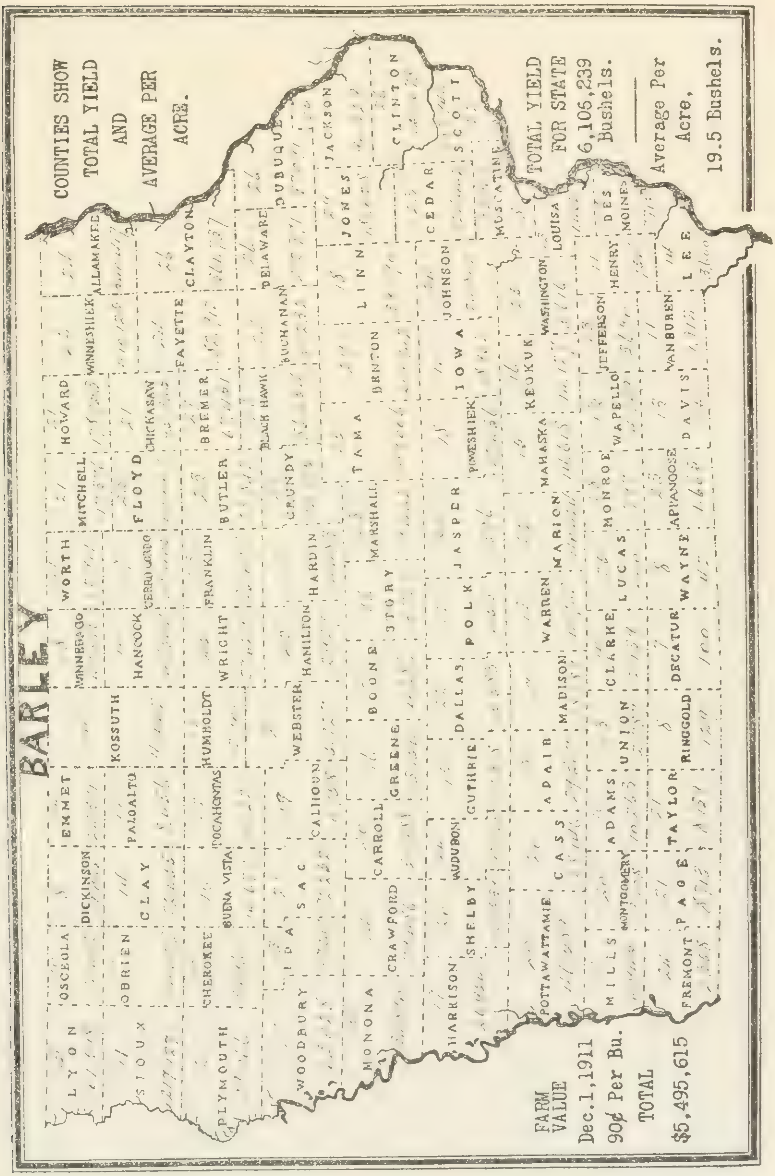
Counties	Rye			Hay (tame)			Hay (wild)			Alfalfa		Potatoes			Flax Seed	
	Acres	Bu. per acre	Total bushels	Acres	Tons per acre	Total tons	Acres	Tons per acre	Total tons	Acres	Total tons	Acres	Bu. per acre	Total bushels	Acres	Total bushels
Poweshiek	190	15	2,885	35,967	.6	20,025	236	1.1	265	--------	--------	1,082	89	96,338	--------	--------
Ringgold	28	17	414	55,481	.6	31,966	396	.8	314	--------	--------	226	44	9,747	--------	--------
Sac	36	9	330	29,142	.9	26,839	9,892	1.0	10,174	175	494	1,320	60	79,165	473	2,130
Scott	2,326	17	39,416	29,394	.9	25,206	2,782	1.2	3,269	138	253	6,068	148	901,868	--------	--------
Shelby	143	16	2,218	34,872	.9	31,255	5,981	1.5	8,970	284	676	1,335	63	84,596	--------	--------
Sioux	8	15	120	20,295	.3	6,736	19,836	.8	16,095	437	800	1,827	103	188,239	555	4,600
Story	75	12	924	32,279	1.0	31,762	7,387	.9	6,545	74	148	697	52	36,608	66	391
Tama	244	14	3,520	43,070	.9	40,007	3,194	1.1	3,525	4	5	2,090	94	195,979	--------	--------
Taylor	110	16	1,764	38,517	.7	27,768	498	1.0	511	38	54	552	39	21,535	--------	--------
Union	66	13	874	36,483	.7	25,872	1,097	1.0	1,042	10	25	763	50	38,483	--------	--------
Van Buren	138	12	1,621	37,307	.5	17,173	102	.8	85	68	207	343	29	10,034	--------	--------
Wapello	250	10	2,401	33,761	.4	13,463	112	.3	37	1	6	771	32	24,363	--------	--------
Warren	415	17	7,073	36,718	.5	17,439	659	.9	767	24	142	910	48	43,999	--------	--------
Washington	215	16	3,467	34,572	.9	31,359	8	1.3	10	13	33	640	63	40,399	--------	--------
Wayne	89	12	1,152	43,715	.6	24,490	65	1.2	76	--------	--------	210	31	6,559	--------	--------
Webster	40	16	622	27,363	.9	23,988	27,784	.8	22,681	52	118	1,108	55	60,792	707	4,568
Winnebago	54	9	467	25,767	.7	17,949	13,614	1.0	13,306	--------	--------	808	110	89,113	2,268	8,898
Winneshiek	[illegible]	19	15,936	48,871	1.0	48,787	6,118	1.0	5,889	3	3	1,297	113	146,873	1,701	10,592
Woodbury	54	9	467	25,767	.7	15,942	13,614	1.0	13,266	3,067	7,158	1,883	68	127,308	138	1,124
Worth	58	19	1,102	19,059	.7	13,881	21,625	.8	18,012	16	11	679	85	57,418	4,013	22,535
Wright	10	19	190	31,402	.9	27,327	13,144	.8	10,781	7	6	897	68	60,783	587	3,378
Total	41,157	15.1	668,443	3,119,399	.8	2,744,088	820,985	.8	662,862	30,323	70,640	117,943	77	9,125,747	39,334	178,717


CORN
1911 Crop
COUNTIES SHOW TOTAL YIELD AND AVERAGE PER ACRE.
TOTAL YIELD FOR STATE.
326,661,430 Bushels.
Average per Acre, 36.9 Bushels
FARM VALUE
Dec. 1, 1911
36c per bu.
TOTAL
$117,598,115
LYON
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
OBRIEN
CLAY
PALOALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
WOODBURY
IDA
SAC
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
TAMA
BENTON
LINN
JONES
JACKSON
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
CEDAR
CLINTON
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
POWESHIEK
IOWA
JOHNSON
SCOTT
MUSCATINE
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VANBUREN
LEE

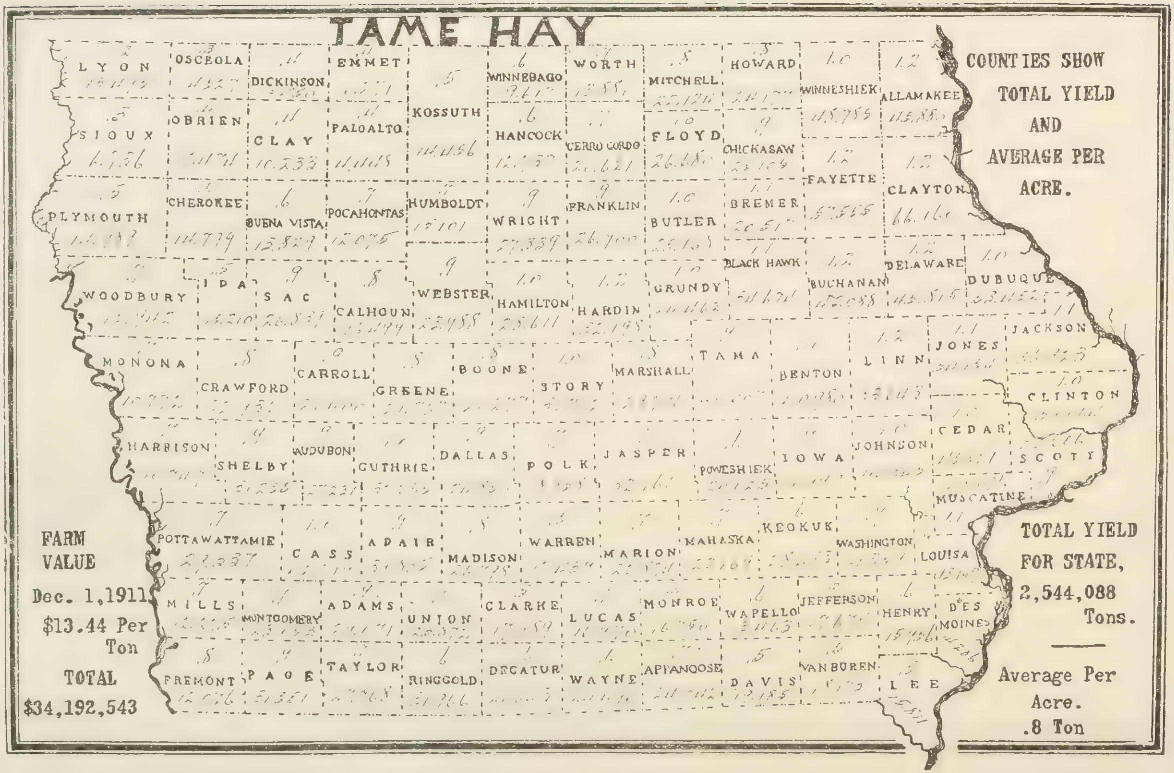

OATS
COUNTIES SHOW TOTAL YIELD AND AVERAGE PER ACRE.
1911
TOTAL YIELD FOR STATE, 122,474,893 Bushels.
Average per Acre. 25.8 Bu.
FARM VALUE
Dec. 1, 1911
41c Per Bu.
TOTAL
$50,214,706
LYON
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
OBRIEN
CLAY
PALOALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
WOODBURY
IDA
SAC
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
TAMA
BENTON
LINN
JONES
JACKSON
CLINTON
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
CEDAR
SCOTT
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
POWESHIEK
IOWA
JOHNSON
MUSCATINE
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VANBUREN
LEE


SPRING WHEAT
COUNTIES SHOW TOTAL YIELD AND AVERAGE PER ACRE.
TOTAL YIELD FOR STATE, 6,238,242 Bushels.
Average Per Acre, 11.6 Bushels.
FARM VALUE Dec. 1, 1911 86¢ Per Bu.
TOTAL $5,364,888
LYON
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
OBRIEN
CLAY
PALO ALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
WOODBURY
IDA
SAC
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
TAMA
BENTON
LINN
JONES
JACKSON
CLINTON
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
CEDAR
SCOTT
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
POWESHIEK
IOWA
JOHNSON
MUSCATINE
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VAN BUREN
LEE


WINTER WHEAT
COUNTIES SHOW TOTAL YIELD AND AVERAGE PER ACRE.
1911 Crop
TOTAL YIELD FOR STATE, 6,451,921 Bushels.
Average Per Acre 17.9 Bushels.
FARM VALUE Dec. 1, 1911 93¢ Per Bu.
TOTAL $6,000,287.
LYON
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
OBRIEN
CLAY
PALOALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
WOODBURY
IDA
SAC
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
TAMA
BENTON
LINN
JONES
JACKSON
CLINTON
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
IOWA
JOHNSON
CEDAR
SCOTT
MUSCATINE
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
POWESHIEK
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VANBUREN
LEE


BARLEY
COUNTIES SHOW TOTAL YIELD AND AVERAGE PER ACRE.
TOTAL YIELD FOR STATE 6,105,239 Bushels.
Average Per Acre, 19.5 Bushels.
FARM VALUE Dec. 1, 1911
90¢ Per Bu.
TOTAL $5,495,615
LYON
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
OBRIEN
CLAY
PALOALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
WOODBURY
IDA
SAC
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
TAMA
BENTON
LINN
JONES
JACKSON
CLINTON
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
JASPER
POWESHIEK
IOWA
JOHNSON
CEDAR
SCOTT
MUSCATINE
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VAN BUREN
LEE

TAME HAY


LYON
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
OBRIEN
CLAY
PALOALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
WOODBURY
IDA
SAC
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
TAMA
BENTON
LINN
JONES
JACKSON
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
CLINTON
CEDAR
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
POWESHIEK
IOWA
JOHNSON
SCOTT
MUSCATINE
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VAN BUREN
LEE

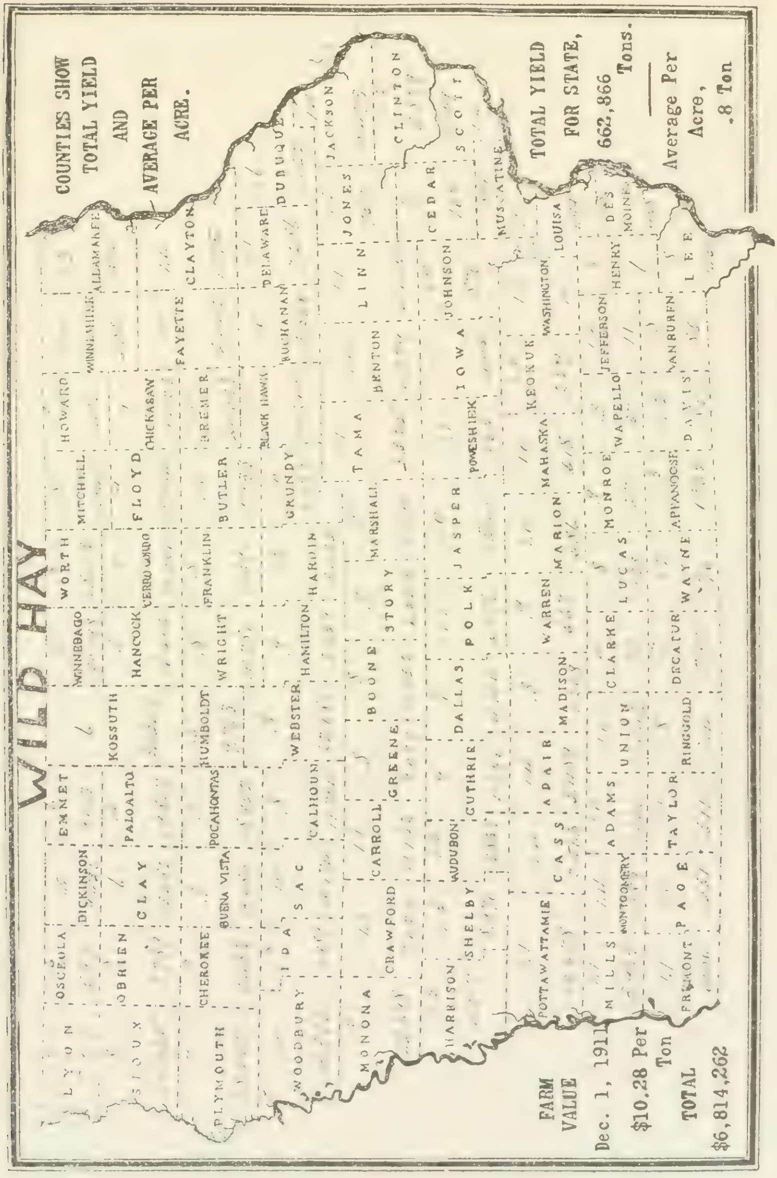
COUNTIES SHOW TOTAL YIELD AND AVERAGE PER ACRE.

TOTAL YIELD FOR STATE, 2,544,088 Tons.

Average Per Acre. .8 Ton

FARM VALUE Dec. 1, 1911 $13.44 Per Ton

TOTAL $34,192,543



WILD HAY

COUNTIES SHOW TOTAL YIELD AND AVERAGE PER ACRE.

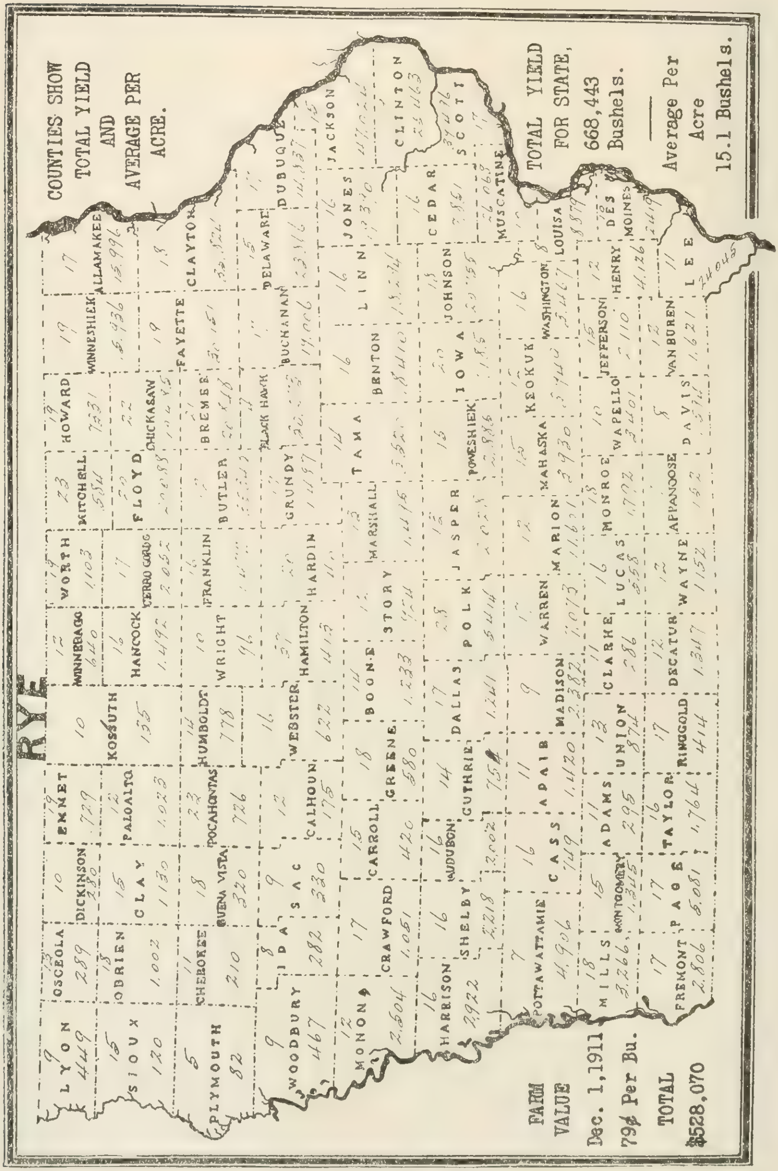
TOTAL YIELD FOR STATE, 662,866 Tons.

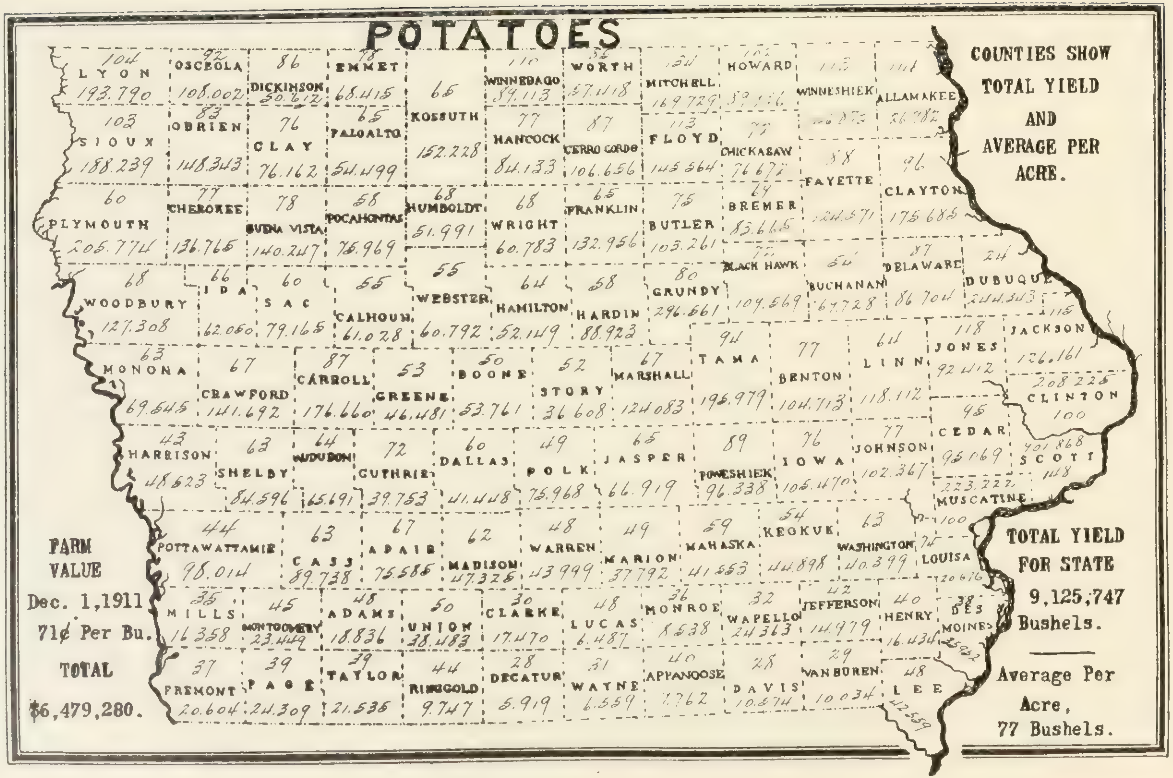
Average Per Acre, .8 Ton

FARM VALUE Dec. 1, 1911 $10.28 Per Ton

TOTAL $6,814,262

LYON
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
OBRIEN
CLAY
PALOALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
WOODBURY
IDA
SAC
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
TAMA
BENTON
LINN
JONES
JACKSON
CLINTON
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
POWESHIEK
IOWA
JOHNSON
CEDAR
SCOTT
MUSCATINE
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VANBUREN
LEE


RYE
COUNTIES SHOW TOTAL YIELD AND AVERAGE PER ACRE.
TOTAL YIELD FOR STATE, 668,443 Bushels.
Average Per Acre 15.1 Bushels.
FARM VALUE Dec. 1, 1911 79¢ Per Bu.
TOTAL $528,070
LYON 9 449
OSCEOLA 13 289
DICKINSON 10 280
EMMET 19 729
KOSSUTH 10 135
WINNEBAGO 12 640
WORTH 19 1,103
MITCHELL 23 584
HOWARD 19 7,331
WINNESHIEK 19 8,436
ALLAMAKEE 17 13,996
SIOUX 15 120
O'BRIEN 18 1,002
CLAY 15 1,130
PALO ALTO 12 1,023
HANCOCK 16 1,492
CERRO GORDO 17 2,052
FLOYD
CHICKASAW 22
FAYETTE 19
CLAYTON 18
PLYMOUTH 5 82
CHEROKEE 11 210
BUENA VISTA 18 320
POCAHONTAS 23 726
HUMBOLDT 14 778
WRIGHT 10 96
FRANKLIN 16
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DELAWARE 15
DUBUQUE
WOODBURY 9 467
IDA 8 282
SAC 9 330
CALHOUN 12 175
WEBSTER 16 622
HAMILTON 413
HARDIN
GRUNDY
TAMA 14
BENTON 16 8,410
LINN 16
JONES 16
JACKSON
CLINTON
SCOTT
MONONA 12 2,604
CRAWFORD 17 1,061
CARROLL 15 420
GREENE 18 580
BOONE 14 1,233
STORY 12
MARSHALL 13
JASPER 15
POWESHIEK 15
IOWA 20
JOHNSON 18
CEDAR 16 7,551
MUSCATINE
HARRISON 16 2,922
SHELBY 16 2,218
AUDUBON 16 2,002
GUTHRIE 14 754
DALLAS 17 1,261
POLK 23 5,414
POTTAWATTAMIE 7 4,906
CASS 16 749
ADAIR 11 1,420
MADISON 9 2,382
WARREN 17 1,073
MARION 12
MAHASKA 15 2,930
KEOKUK 15
WASHINGTON 16
LOUISA 8
MILLS 18 3,266
MONTGOMERY 15 1,315
ADAMS 11 295
UNION 13 874
CLARKE 11 286
LUCAS 16
MONROE 18 1,702
WAPELLO 10
JEFFERSON 15
HENRY 12 4,126
DES MOINES
FREMONT 17 2,806
PAGE 17 8,081
TAYLOR 16 1,764
RINGGOLD 17 414
DECATUR 12 1,347
WAYNE 12 1,152
APPANOOSE
DAVIS 8
VAN BUREN 12 1,621
LEE 11 24045



POTATOES

COUNTIES SHOW TOTAL YIELD AND AVERAGE PER ACRE.

TOTAL YIELD FOR STATE 9,125,747 Bushels.

Average Per Acre, 77 Bushels.

FARM VALUE Dec. 1, 1911 71¢ Per Bu.

TOTAL $6,479,280.

104 LYON 193.790
92 OSCEOLA 108.002
86 DICKINSON 30.612
78 EMMET 68.415
66 KOSSUTH 152.228
110 WINNEBAGO 89.113
56 WORTH 57.418
124 MITCHELL 169 729
HOWARD
WINNESHIEK
ALLAMAKEE
103 SIOUX 188.239
83 OBRIEN 148.343
76 CLAY 76.162
65 PALOALTO 54.499
77 HANCOCK 84.133
87 CERRO GORDO 106.656
113 FLOYD 145 564
77 CHICKASAW 76 672
58 FAYETTE 124.571
96 CLAYTON 175 685
60 PLYMOUTH 205.774
77 CHEROKEE 136.765
78 BUENA VISTA 140.247
58 POCAHONTAS 75.969
68 HUMBOLDT 51.991
68 WRIGHT 60.783
65 FRANKLIN 132.956
75 BUTLER 103.261
69 BREMER 83.665
BLACK HAWK 109.569
54 BUCHANAN 67728
87 DELAWARE 86 704
24 DUBUQUE 244.343
68 WOODBURY 127.308
66 IDA 62.060
60 SAC 79.165
55 CALHOUN 61.028
55 WEBSTER 60.792
64 HAMILTON 52.149
58 HARDIN 88.923
80 GRUNDY 296.661
94 TAMA 196.979
77 BENTON 104.713
64 LINN 118.112
118 JONES 92 412
115 JACKSON 126.161
63 MONONA 69.545
67 CRAWFORD 141.692
87 CARROLL 176.660
53 GREENE 46.481
50 BOONE 53.761
52 STORY 36 608
67 MARSHALL 124 083
208 225 CLINTON 100
43 HARRISON 48 623
63 SHELBY 84.596
64 AUDUBON 65.691
72 GUTHRIE 39.753
60 DALLAS 41.448
49 POLK 75.968
65 JASPER 66.919
89 POWESHIEK 96.338
76 IOWA 105.470
77 JOHNSON 102.367
95 CEDAR 95 069
201 868 SCOTT 118
223.722 MUSCATINE 100
44 POTTAWATTAMIE 98.014
63 CASS 89.738
67 ADAIR 75.585
62 MADISON 47.325
48 WARREN 43 999
49 MARION 37792
59 MAHASKA 41 553
54 KEOKUK 44.898
63 WASHINGTON 40.399
74 LOUISA 20 616
35 MILLS 16 358
45 MONTGOMERY 23.449
48 ADAMS 18.836
50 UNION 38.483
30 CLARKE 17.470
48 LUCAS 6.487
36 MONROE 8538
32 WAPELLO 24 363
42 JEFFERSON 14.979
40 HENRY 16.434
38 DES MOINES 25 932
37 FREMONT 20.604
39 PAGE 24.309
39 TAYLOR 21.536
44 RINGGOLD 9.747
28 DECATUR 5.919
31 WAYNE 6.559
40 APPANOOSE 7.762
28 DAVIS 10.574
29 VAN BUREN 10.034
48 LEE 42 559

TABLE NO. 4

Number of horses all ages, mules all ages, and number of swine on farms July 1, 1911. Number dairy cows kept for milk, number other cattle not kept for milk and total number cattle all ages. Number sheep kept on farms, number shipped in for feeding and number sold for slaughter. Number pounds wool clipped. Total number all varieties poultry on farms July 1, 1911, and total number dozen eggs received (estimated), by counties for the year of 1911.

Counties	Horses	Mules	Hogs	Cattle			Sheep				Poultry	
	All ages	All ages	On farms July 1, 1911	Dairy cows and heifers kept for milk	Other cattle not kept for milk	Cattle all ages	Number sheep kept on farms	Number sheep shipped in for feeding	Number sheep sold for slaughter	Number pounds wool clipped	No. all varieties on farms July 1, 1911	No. dozen eggs received (estimated)
Adair	[illegible]	[illegible]	97,431	11,114	32,178	44,651	12,418	7,889	9,434	[illegible]	[illegible]	[illegible]
Adams	[illegible]	770	71,86[illegible]	6,940	21,741	27,581	[illegible]	3,776	8,616	50,707	[illegible]	[illegible]
Allamakee	[illegible]	78	65,515	19,599	24,291	40,898	12,083	--	6,408	[illegible]	[illegible]	[illegible]
Appanoose	[illegible]	[illegible]	23,572	9,657	9,331	17,975	13,215	201	4,177	[illegible]	[illegible]	[illegible]
Audubon	[illegible]	[illegible]	[illegible]	[illegible]	23,897	37,612	[illegible]	454	3,728	31,091	[illegible]	[illegible]
Benton	[illegible]	[illegible]	[illegible]	12,703	[illegible]	53,043	[illegible]	9,743	7,871	[illegible]	[illegible]	[illegible]
Black Hawk	[illegible]	[illegible]	[illegible]	18,568	[illegible]	45,179	3,811	2,068	[illegible]	22,719	[illegible]	[illegible]
Boone	[illegible]	[illegible]	74,820	12,593	19,047	[illegible]	2,614	[illegible]	769	[illegible]	[illegible]	[illegible]
Bremer	[illegible]	78	[illegible]	22,604	14,405	[illegible]	2,776	296	676	[illegible]	[illegible]	[illegible]
Buchanan	[illegible]	[illegible]	87,855	15,529	28,031	[illegible]	6,705	[illegible]	2,011	[illegible]	411,017	[illegible]
Buena Vista	[illegible]	263	89,411	11,551	16,745	41,004	1,861	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Butler	[illegible]	[illegible]	85,452	16,763	29,811	[illegible]	4,518	742	2,974	[illegible]	[illegible]	[illegible]
Calhoun	[illegible]	[illegible]	65,140	8,942	[illegible]	21,091	4,778	[illegible]	3,572	[illegible]	[illegible]	[illegible]
Carroll	[illegible]	448	99,847	11,220	13,903	[illegible]	2,117	[illegible]	3,903	[illegible]	[illegible]	[illegible]
Cass	[illegible]	[illegible]	[illegible]	8,650	[illegible]	[illegible]	[illegible]	[illegible]	11,051	[illegible]	[illegible]	[illegible]
Cedar	[illegible]	[illegible]	159,489	[illegible]	[illegible]	[illegible]	19,161	[illegible]	37,048	[illegible]	[illegible]	[illegible]
Cerro Gordo	[illegible]	[illegible]	66,450	13,190	[illegible]	[illegible]	[illegible]	478	1,281	[illegible]	[illegible]	[illegible]
Cherokee	[illegible]	[illegible]	[illegible]	8,035	[illegible]	[illegible]	[illegible]	600	1,308	[illegible]	[illegible]	[illegible]
Chickasaw	[illegible]	[illegible]	78,078	18,479	[illegible]	42,077	2,871	100	991	12,451	[illegible]	[illegible]
Clarke	[illegible]	[illegible]	41,798	5,433	13,445	[illegible]	[illegible]	2,345	2,193	[illegible]	[illegible]	[illegible]
Clay	[illegible]	[illegible]	70,076	11,066	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Clayton	[illegible]	[illegible]	124,190	31,164	[illegible]	61,651	[illegible]	[illegible]	5,266	[illegible]	444,780	1,971,848
Clinton	[illegible]	180	134,436	18,519	[illegible]	[illegible]	[illegible]	[illegible]	6,878	[illegible]	[illegible]	[illegible]
Crawford	[illegible]	768	178,846	11,009	34,571	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dallas	[illegible]	713	105,920	9,981	19,738	[illegible]	[illegible]	[illegible]	3,793	[illegible]	[illegible]	[illegible]

TABLE NO. 4—CONTINUED

Counties	Horses	Mules	Hogs	Cattle			Sheep				Poultry	
	All ages	All ages	On farms July 1, 1911	Dairy cows and heifers kept for milk	Other cattle not kept for milk	Cattle all ages	Number sheep kept on farms	Number sheep shipped in for feeding	Number sheep sold for slaughter	Number pounds wool clipped	No. all varieties on farms July 1, 1911	No. dozen eggs received (estimated)
Davis	12,129	845	41,601	7,988	15,454	24,730	76,765	4,041	22,766	415,023	463,063	959,870
Decatur	10,486	679	48,760	6,363	11,427	20,829	9,907	1,257	4,795	51,200	275,498	770,399
Delaware	13,791	166	102,734	22,848	29,257	52,105	6,077	8,141	5,099	40,418	359,079	1,339,187
Des Moines	10,742	354	60,844	6,567	7,819	17,913	3,653	4	1,129	18,278	343,316	913,538
Dickinson	6,054	188	35,555	6,553	15,110	21,047	6,618	861	3,354	33,333	148,950	343,449
Dubuque	12,190	63	98,392	17,846	23,910	42,646	5,929	6	3,012	41,359	318,246	784,634
Emmet	6,904	129	32,019	6,718	10,904	18,771	4,181	102	2,871	24,868	149,869	333,717
Fayette	17,408	180	101,048	26,529	37,143	67,736	7,864	535	2,233	48,896	566,450	1,815,358
Floyd	12,276	71	64,367	10,818	24,064	36,385	8,347	907	3,586	47,944	317,696	1,006,090
Franklin	14,210	154	91,070	14,030	27,168	43,196	5,110	11,398	11,624	26,877	354,768	840,765
Fremont	10,468	1,899	69,881	6,072	10,782	21,247	830	3,188	2,022	4,646	384,742	645,776
Green	15,440	417	81,176	8,878	22,454	34,613	2,248	5,575	6,377	15,473	418,187	963,025
Grundy	13,223	241	177,998	11,419	19,735	41,333	4,214	2,030	3,253	22,196	404,219	1,124,729
Guthrie	14,092	500	99,520	10,698	24,302	35,000	6,170	2,481	3,781	25,900	340,713	792,034
Hamilton	15,560	395	84,431	12,503	24,276	38,670	4,798	251	1,927	46,624	436,957	994,250
Hancock	11,655	237	55,020	12,999	20,735	33,896	3,128	291	1,298	23,307	286,645	720,719
Hardin	12,671	334	91,311	12,334	20,463	28,720	4,783	3,023	5,885	30,013	367,785	1,177,187
Harrison	14,311	1,282	110,291	9,194	16,378	29,756	1,956	16,171	13,058	39,819	306,716	1,223,888
Henry	12,600	544	64,764	6,010	12,195	22,873	30,856	262	8,730	167,528	301,600	1,206,987
Howard	9,418	53	48,031	21,095	15,648	30,197	7,504	49	3,388	43,473	232,045	630,698
Humboldt	10,320	180	67,874	8,507	15,849	27,452	1,930	3,204	3,381	11,501	277,293	736,669
Ida	10,976	508	112,789	6,554	20,719	26,078	5,760	7,860	5,315	17,481	249,141	619,505
Iowa	16,456	847	130,647	11,429	31,819	49,832	10,724	2,765	6,653	66,924	471,607	1,247,868
Jackson	13,505	199	96,366	16,964	28,716	51,322	6,770	42	3,340	35,261	326,309	755,125
Jasper	22,845	877	158,675	10,389	38,612	49,601	8,711	2,294	4,091	41,814	591,533	1,430,913
Jefferson	12,066	313	60,707	6,167	13,927	21,601	11,139	574	8,368	56,591	340,088	976,959
Johnson	16,345	716	122,858	8,899	19,496	38,982	11,556	172	5,619	80,866	431,689	1,156,893
Jones	13,932	316	120,170	17,366	25,697	53,793	6,554	2,798	4,773	45,680	346,267	1,088,325
Keokuk	17,895	895	101,578	9,268	25,313	33,685	10,402	1,430	5,722	50,289	607,831	1,580,706
Kossuth	19,870	268	101,573	20,091	28,703	53,752	6,121	1,828	3,634	32,264	576,326	1,433,836
Lee	10,954	688	41,227	7,054	15,754	22,868	26,296	2,396	18,375	108,866	590,407	1,335,722

Linn	18,298	410	117,018	16,752	31,683	50,391	12,541	4,570	7,595	65,184	509,385	1,350,276
Louisa	9,451	228	62,405	4,322	12,547	18,715	3,155	1,623	4,366	16,278	229,118	549,225
Lucas	9,987	712	36,307	[illegible]	[illegible]	22,725	11,003	1,827	4,276	55,241	275,314	776,523
Lyon	17,861	94	86,332	9,888	15,875	32,501	3,331	685	2,683	33,441	481,501	678,365
Madison	11,300	978	106,410	7,741	22,080	36,635	11,553	4,720	6,995	51,880	794,806	1,144,120
Mahaska	16,161	977	108,875	9,561	15,267	29,125	15,399	11,111	11,519	166,799	491,059	1,327,073
Marion	15,061	800	80,467	11,860	13,911	16,097	14,407	23,69	35,457	169,237	165,645	1,275,032
Marshall	16,933	761	113,676	10,726	25,510	11,599	10,250	6,831	12,804	59,595	459,953	1,082,843
Mills	8,311	1,107	69,813	4,431	12,185	18,007	1,181	8,117	3,123	5,090	181,787	400,770
Mitchell	10,735	72	53,368	10,978	26,763	37,090	2,925	270	2,383	24,211	293,174	1,035,769
Monona	13,908	2,115	85,947	8,788	14,960	31,788	1,927	5,149	4,801	6,752	318,247	833,349
Monroe	8,537	822	54,035	7,466	11,118	10,316	6,751	918	3,110	53,278	251,494	515,417
Montgomery	10,928	991	104,670	5,692	17,914	38,278	3,841	5,739	2,260	15,707	163,656	708,021
Muscatine	11,039	471	81,337	7,963	21,579	31,887	1,355	6,733	4,176	25,801	517,174	782,889
O'Brien	13,555	241	102,854	12,415	29,201	11,647	8,018	99	7,130	54,982	276,656	773,633
Osceola	8,643	110	51,128	8,010	11,190	24,997	1,587	1,563	3,297	25,654	164,500	452,003
Page	14,153	1,557	171,731	8,320	24,381	33,775	6,833	5,778	7,082	57,650	383,271	951,259
Palo Alto	9,117	167	54,810	11,489	17,171	20,196	1,749	591	1,504	18,154	200,109	648,719
Plymouth	[illegible]	489	169,676	23,618	28,170	55,368	1,035	1,347	1,576	10,225	971,739	2,640,768
Pocahontas	12,941	403	61,995	9,879	17,708	29,080	3,127	2,657	1,296	21,096	378,509	960,001
Polk	13,728	621	68,538	9,176	13,605	[illegible]	2,857	2,716	2,921	18,288	440,687	1,119,678
Pottawattamie	21,025	1,911	194,509	13,268	29,015	54,081	7,341	16,878	10,011	23,183	526,365	1,526,700
Poweshiek	17,387	766	117,867	9,719	25,129	41,115	7,345	2,755	5,319	43,878	401,745	911,378
Ringgold	12,993	1,100	78,157	7,190	11,017	26,772	10,799	200	1,170	56,008	357,056	950,472
Sac	15,388	515	102,195	10,113	30,122	47,305	18,180	6,621	22,202	112,942	333,452	871,553
Scott	12,562	459	105,118	15,111	19,960	35,011	1,916	870	1,354	10,093	288,145	1,261,785
Shelby	16,706	673	130,785	9,336	31,113	17,991	5,865	21,366	20,511	17,878	407,053	931,327
Sioux	19,087	226	164,331	16,891	31,738	59,010	5,555	2,096	4,201	29,195	327,332	916,644
Story	10,382	477	86,388	11,00	17,607	33,115	3,115	6,198	6,83	19,300	443,067	1,262,541
Tama	15,700	787	136,976	11,031	38,671	61,709	7,913	2,765	4,155	44,692	523,204	1,253,740
Taylor	17,106	1,047	71,338	7,021	16,856	24,438	11,096	3,036	8,653	81,342	327,985	1,087,412
Union	10,851	735	55,969	6,725	19,900	26,685	1,113	1,137	1,541	23,623	298,401	711,258
Van Buren	11,770	542	46,241	6,427	9,877	22,285	53,227	1,138	18,073	3 1,407	396,483	1,281,342
Wapello	10,015	532	18,778	7,086	7,817	19,091	15,190	540	5,926	111,451	303,222	706,118
Warren	11,837	507	76,019	8,731	20,581	29,417	11,656	9,088	8,928	64,707	468,396	1,657,931
Washington	15,400	992	124,131	6,671	25,875	32,517	12,550	3,135	7,789	47,637	411,812	1,129,314
Wayne	12,846	1,247	52,15	6,991	17,105	28,919	8,285	2,178	3,323	37,331	331,183	863,363
Webster	16,709	19	73,927	13,141	19,088	35,801	2,317	1,482	1,803	9,775	388,071	1,113,151
Winnebago	8,531	87	11,082	13,007	15,327	28,333	1,767	20	1,176	11,063	240,311	70 ,625
Winneshiek	16,245	68	103,871	22,172	[illegible]	57,303	18,822	1,275	10,113	115,211	398,167	1,197,420
Woodbury	19,089	927	115,149	11,081	31,529	15,613	6,571	6,414	6,765	30,361	356,480	938,340
Worth	8,500	65	10,137	12,619	17,700	30,339	2,107	----	842	13,730	211,637	593,471
Wright	14,210	272	71,231	11,757	15,913	33,613	5,980	1,123	2,824	32,073	278,490	649,985
Total	1,761,039	52,788	8,799,856	1,139,220	2,164,672	3,654,889	837,112	391,829	617,860	4,725,753	6,002,929	97,169,097

TABLE NO. 5

Acreage in sweet corn, pop corn, and acreage and total yield of timothy and clover seed by counties for the year of 1911.

Counties	Sweet Corn	Pop Corn	Timothy Seed		Clover Seed	
	Acres	Acres	Acres	Bushels	Acres	Bushels
Adair			9,728	20,797	794	731
Adams		2	1,832	3,341	23	17
Allamakee	47	2	6,230	21,068	23	23
Appanoose	3	4	6,866	13,437	158	182
Audubon	375	1	1,556	2,825	165	171
Benton	6,656	5	3,035	13,689	29	41
Black Hawk	2,704	30	849	3,650	63	44
Boone	20	8	181	407	629	619
Bremer	1,897	1	311	1,042	47	38
Buchanan	1,124	4	2,126	9,029	17	24
Buena Vista	1,024	5	251	495	456	432
Butler	154	6	1,255	3,999	45	42
Calhoun	520	29	248	672	818	899
Carroll	19	69	1,006	2,323	2,141	1,957
Cass	1,864	64	2,664	7,263	743	706
Cedar	392	5	3,728	16,174	35	83
Cerro Gordo	20	9	895	2,051	11	3
Cherokee	3	1	277	588	578	627
Chickasaw		2	5,554	12,603		
Clarke	13	2	5,270	11,089	95	106
Clay	3	3	2,445	3,674	25	14
Clayton	105		3,262	14,974	287	289
Clinton	7	4	1,324	5,040	71	173
Crawford		274	777	1,575	901	893
Dallas	361	4	199	699	333	390
Davis	19	1	5,566	10,714	150	55
Decatur		1	5,952	14,051	325	278
Delaware	572	10	2,086	10,323		
Des Moines	63	6	507	1,675	918	1,054
Dickinson	6	29	1,025	1,118	32	31
Dubuque	266	5	1,757	6,329	8	14
Emmet	10	1	447	540		
Fayette	673	3	5,396	17,901	18	26
Floyd	9	2	2,221	6,648		
Franklin	1,276	9	907	2,836	23	20
Fremont	1,059	12	112	172	430	602
Greene		33	386	1,626	919	680
Grundy	34	1	1,190	5,336	7	14
Guthrie	99	91	7,668	15,793	842	1,117
Hamilton	35	20	395	1,579	573	682
Hancock	127	3	316	468	10	10
Hardin		51	369	1,325	282	279
Harrison	14	2	138	251	96	104
Henry	651	12	598	1,844	919	1,107
Howard	7	1	5,950	12,255		
Humboldt		6	275	558	143	[illegible]
Ida	2	3,749	447	856	638	402
Iowa	815		13,036	40,239	433	1,001
Jackson			2,712	9,872	37	29
Jasper	218		1,004	2,917	1,795	2,217
Jefferson	6		1,201	3,759	1,254	977
Johnson	6		2,488	10,656	498	1,295
Jones	405	1	1,508	6,541		
Keokuk	1	3	1,458	4,341	607	1,001
Kossuth	16	14	379	607		
Lee	22	4	1,148	2,655	527	777
Linn	1,067	3	3,506	14,341	73	269
Louisa	1,025	1	310	1,390	129	220

TABLE NO. 5—CONTINUED

Counties	Sweet Corn	Pop Corn	Timothy Seed		Clover Seed	
	Acres	Acres	Acres	Bushels	Acres	Bushels
Lucas	21		14,816	39,580	218	157
Lyon	22	1	21	18	30	23
Madison	224	1	2,323	3,598	530	624
Mahaska	16	7	662	1,411	1,550	2,041
Marion	2	3	1,521	4,400	630	646
Marshall	1,005	33	1,142	4,644	633	804
Mills	23		149	266	382	365
Mitchell	457	1	3,351	11,586	10	16
Monona	246	118	109	217	207	151
Monroe		1	5,839	17,593	57	57
Montgomery	235	3	404	722	115	140
Muscatine		15	1,061	3,993	74	80
O'Brien		60	1,763	2,576	15	25
Osceola		7	2,054	2,906		
Page	79	1	718	1,982	408	470
Palo Alto	104	29	63	66	7	[illegible]
Plymouth	53	16	362	849	64	75
Pocahontas	1	2	424	1,647	151	251
Polk	797	62	186	370	251	159
Pottawattamie	905	14	1,595	2,657	398	1,455
Poweshiek	57	1	2,949	6,629	733	1,216
Ringgold	7	1	3,134	7,682	197	182
Sac	1,006	7,660	881	3,766	769	638
Scott	27	2	655	1,950	25	76
Shelby	244	2	1,707	3,842	828	1,027
Sioux	20		6	25		
Story	183	2	294	1,042	411	231
Tama	780	11	1,888	7,514	136	195
Taylor	7	4	2,308	5,061	95	96
Union	1	2	3,678	7,412	112	145
Van Buren	4	3	1,672	4,012	782	536
Wapello	54	2	1,474	3,429	266	556
Warren	9	1	1,514	2,615	307	383
Washington		1	1,090	4,082	1,230	3,195
Wayne		6	25,862	65,738	423	281
Webster	11	3	285	891	316	334
Winnebago	943	4	228	379		
Winneshiek	8	1	9,075	30,102	10	6
Woodbury	39	43	575	1,059	242	327
Worth	69		664	1,490	6	40
Wright	3	2	519	737	300	306
Total	33,566	12,74[illegible]	233,318	644,581	33,121	40,145

PART IV.

PROCEEDINGS

OF THE

Joint Session of the Annual State Farmers' Institute and Corn Belt Meat Producers Association

HELD AT

Savery Convention Room at the Savery Hotel, Des Moines,
Iowa, on December 12-13, 1911.

TUESDAY, DECEMBER 12.

The meeting was called to order by President Sykes, and prayer was offered by Rev. J. F. Jamieson, of the Elmwood United Presbyterian Church, of Des Moines. President Sykes then presented his annual address, as follows:

PRESIDENT'S ADDRESS.

A. SYKES, DES MOINES, IOWA.

Let me extend to you all a hearty welcome, and assure you that we feel your presence here is a manifest of your interest in this splendid work and an inspiration to the officers in charge.

The burden of preparing another annual address and report for your association has again fallen to my lot, and I shall again attempt to perform this humble duty. When I prepared my last annual address, I had fully expected to retire from the head of your association, and confidently expected that I would not be again called upon to perform this task. But fate seemed to decree otherwise, as I was re-elected against my wishes, and I, therefore have no apologies to make for standing before you at this time.

At the time of the last annual meeting, your association was in a thrifty, prosperous condition, and I am glad to be able to report that it is still on the forward march, and that it has not lost its enthusiasm nor taken a backward step during the past year.

The work during the past year has not been of a spectacular nature, but more along the line of the regular work of the association in carefully looking after and guarding the farmers' and stockmen's interests.

During the winter months I was engaged speaking at farmers' institutes, rally meetings, and other like meetings, and also spent considerable time in the legislature, in behalf of some measures that were pending, which were very important to our members and the farmers in general. But before I go farther, I want to again impress upon our members the value of cooperating with the farmers' institute people in their meetings. This plan makes a better institute, a better Corn Belt meeting, and tends to spread the gospel of the association much better than it can be done otherwise.

Now, as to the work of the past year. It will be remembered that in my last annual address I called attention to the general advance in freight rates that the railroads were at that time trying to put over on the people, and the important part your association was taking to prevent those advances. At that time the case was still pending, and it was finally concluded in January. And it then developed that Mr. Thorne, the rate attorney for this association, had spent over one hundred days on the case. Three hearings were held in Chicago, three in Washington, D. C., and one in New York. This will give you some idea of the magnitude of the case. The latter part of February the Interstate Commerce Commission gave out its decision, refusing to permit the railroads to advance their rates as proposed.

The one feature in connection with this case which was most gratifying to the association was the fact that the decision of the commission was apparantly based on the evidence presented by this association through its attorney, and when we realize that this decision meant a saving of over two million dollars annually to the people of Iowa, we can better appreciate the real value of the work done by this organization.

The fact is, the farmers are not familiar with what this association is doing for them, and on that account they do not appreciate its value. I am quite sure that if men would post themselves on the work this association is doing, the membership would increase very rapidly, as I find that it takes but little persuasion, where men are acquainted with the work we are doing, to get them to join our ranks. In this connection, I want to say that the Corn Belt Meat Producers' Association was the only association representing the farmers, and producers' interests to take the initiative in the fight against these rate advances. Later on in the case the Farmers' and Grain Dealers' Association intervened and furnished Hon. George C. White, of Nevada, Iowa, who rendered some valuable assistance in the case.

In this case you have a striking example of the value of organization to the farmers. Here you have the railroads demanding a general advance in rates on your commodities of ten per cent, which it is estimated would have cost the Iowa farmers over one million dollars annually in increased freight bills. And as individual producers you are absolutely helpless to prevent these advances, although you must pay them if put into effect. The matter is sprung on you unexpectedly. You are only given thirty days' notice until the advances go into effect; you stand in awe, and wonder where they are going to hit you next, and who there is to look after the interests of the men who till the soil and who are the bone and sinew of the state. But just at this juncture the executive committee of your association decide that they will not permit this increased burden to be placed upon the Iowa farmers without a protest. So they confer with the long, lean, lank son of a Methodist minister, as he styles himself, who is wearing the scars of many battles fought in your behalf with the same opposing forces, and instruct him to get busy; and from that time on there was something doing. And it remained for Clifford Thorne, the matchless, indefatigable representative of the Meat Producers' Association, to show to the Interstate Commerce Commission that the rates we are now paying are highly remunerative, and that the railroads were in a very prosperous condition and not entitled to the unjust advances they were asking for.

In this case you have a forceful illustration of the value of being organized and ready at any and all times to put up a vigorous fight for your rights; in this one case you are saved more money than it would cost to maintain your organization for years to come.

The most important legislation enacted through the direct efforts of your association during the past winter was the passage of a Commerce Counsel bill, which provides for a Commerce Counsel to represent the people of the state before either the state Railroad Commission or the Interstate Commerce Commission, in all questions of rate disputes, or any other matter that might come before those tribunals for adjustment.

As usual, the railroads were much opposed to this bill, but they did most of their work through their lieutenants in the Iowa senate, and it seems difficult to understand why farmers will vote for men for state senators whose whole sympathies are in accord with the great corporation interests, and who work and vote against the men who elected them. Haply, these men are being retired one by one, and if the work of "cleaning house" continues, it will only be a few years until there will be a class of men in the Iowa senate that will listen to the voice of the people rather than that of the corporations.

I want to congratulate you on the kind of men that are being selected as representatives in the lower house, and if you will get busy and select some good, strong men for the state senate in the districts where you have corporation senators at present, and get out and do some work for them, you can have in the next general assembly the same class of men in the senate you now have in the house.

If you want to know who your senator represents, look up his record on anti-railroad and corporative measures, and see how he voted.

If he voted against your interests, he is not representing you, but misrepresenting you, and the place for him is at home and not in the Iowa senate; and you are not doing your duty if you do not use your best efforts to defeat him. There are some such men located in the territory in which your association is fairly strong, and they should be defeated in the coming primaries if possible. If not then, go after them and defeat them at the polls by all means, as you can not afford to tolerate such misrepresentation.

There were also two or three other measures of minor importance passed by the lower house, which the stockmen were directly interested in, and which should have been enacted into laws. But they very mysteriously disappeared when they got into the hands of the sifting committee in the senate. This, I think, was largely due to the unfriendly attitude of the chairman of that committee towards such measures.

During the early spring the railroads gave out notice that after June 1st there would be no cars of live stock billed out for shipment within the state at less than the standard minimums on the thirty-six-foot cars, which is 22,000 pounds on cattle, 17,000 pounds on hogs, and 22,000 pounds on sheep in double decks. In this connection it is well to bear in mind that the small minimum applicable to the thirty-one-foot car, and the provision requiring the carries to bill the large cars at the lesser minimums (if furnished in place of a small car), had been retained to the shipper by the officers of your association appearing annually before the commission and asking for a continuance of the order. So when the railroads published their order cancelling the use of the thirty-one-foot car minimums, your officers filed a complaint with the Railroad Commission and asked for a continuance of the old order. This the railroads objected to, and after some parleying and delay, a hearing was arranged for on July 12th. At this hearing, the interests of the farmers and stockmen were presented by your president and secretary and the Sioux City Live Stock Exchange, and the Morrell and Sinclair packing companies represented the local packing interests. Judge Henderson, Commerce Counsel for the state, conducted the case and made the argument on behalf of the stockmen. At the close of the hearing the commission took the case under advisement, and in August gave out its decision; and in this decision the commission fixed the standard minimums at 22,000 pounds on fat cattle, 20,000 pounds on stock cattle, 19,000 pounds on sheep in double deck cars, and 10,000 pounds on sheep in single decks, and 15,000 pounds on hogs—these minimums to apply on all cars regardless of dimension, and ordering same to go into effect September 15th. This ruling was satisfactory to your officers and the stockmen, but it seemed to displease the railroad representatives, as they at once set about it to have the commission suspend its order and re-open the case, which was finally consented to by the commission, and their order suspended and a future date set for re-opening the case.

So the case was re-opened on November 16th, and a very elaborate and lengthy hearing, lasting six days, was held, and a large number of prominent railroad men appeared and took part in the hearing; and the carriers produced a great mass of data and exhibits in the case. The farmers' and shippers' interests were represented by Judge Henderson, Commerce Counsel, who had charge of the case, and your president and secretary. A great amount of testimony was taken from farmers, feeders and shippers concerning the proper minimums to fix on these cars. The Sioux City Live Stock Exchange and Stock Yards Company, the Sinclair Packing Company, and the Morrell Packing Company also sent representatives, who furnished very material testimony and exhibits in the case. And at the conclusion of the hearing I think there was a general feeling that the stockmen had made a strong case, and that their interests were well cared for. The final arguments will be made in the case in January, and it will then be taken under advisement by the commission, to determine whether the orginal decision and order shall stand, or whether they will amend their decision.

It will undoubtly be months before the commission reaches a conclusion, as there is such a great mass of evidence to analyze and digest. But while this decision is pending, remember that you are still protected on light shipments within the state, if you order a small car. And just here let me say that I know of no better illustration of the value of your association to the farmers and shippers than this very case. For the last three years had you not been organized, you would have been paying the minimums applicable to the thirty-six foot car on all your local shipments. This would have increased your freight about $2 per car, and it looks very much like your association will have plenty to do in the future, as the railroads have just filed with the Iowa commission a petition asking for an increase of twelve and one-half per cent on all live stock rates. This is the first time the railroads have asked the commission for a direct advance in rates on any staple commodity, and it will no doubt be one of the most bitterly contested cases in the history of your association. So with the cases now pending and the new ones that we may expect to come up, your organization will certainly have plenty to do for some time to come.

The most important matter taken up by your association was the fight to prevent the general advance on stocker and feeder cattle and sheep, which the railroads attempted to put over on us during the summer. You are aware that stockers and feeders have been shipped for twenty-five years or more on a rate that was seventy-five per cent of the fat stock rate, and all of a sudden the carriers discovered that they were losing money on that class of business and got together and decided to advance the rates up to the fat stock rate, which meant an advance of thirty-three and one-third per cent. But before the advances went into effect the officers of your association, in conjunction with the officers of the live stock exchanges, filed complaint against the advances with the Interstate Commerce Commission, and asked for a suspension of the order of the railroads, and an opportunity to present the stockmen's side of the case to the commission. This request was granted, the advances suspended, and October 20th was fixed as the date to open the hearings at Omaha. Three of these hearings were held—each one of two days' duration—one at Omaha, one at Kansas City, and the case was concluded as to the evidence in Chicago, and the briefs and arguments will be presented to the commission at Washington, D. C., in January. Railroad people cut some queer "capers" at these hearings. For instance, they started out at Omaha to prove that it was more expensive to the carriers to handle the stocker and feeder business in local merchandise trains than to handle the fat stock business into the markets on the special expedited service which they give. This was just the opposite of what they testified to in former cases which this association had had before the commission, as they had persistently held that the special fast service given the stock into the markets was the most expensive service they had. But, fortunately, we were able to soon spike their guns by introducing into the record some of their testimony at former hearings on the costly kind of service given the stock to the markets.

They next tried to hide behind the question of discrimination, claiming that it was a discrimination to charge one man a higher rate on stock because he wanted it to slaughter than they would charge another man that wanted the stock to feed. But I think they utterly failed on this point also.

From the standpoint of evidence the carriers certainly made a very poor showing, and towards the last it really looked like they had given up in despair. But they may be able to brace up their case very materially in their arguments.

It was conceded that the stockmen made a strong case, and that the case was well conducted and your interests carefully guarded. Judge Henderson, the Commerce Counsel, and the president of your association appeared for your association, Judge Henderson also appearing for the Iowa Railroad Commission and the shippers of the state. Then the representatives of the different live stock exchanges at the Missouri river markets and Chicago appeared in the case for the stockmen at large, and T. W. Tomlinson, secretary of the American National Live Stock Association, appeared for that organization. All of these men rendered valuable service at the hearings, and your interests were very zealously guarded, so that there was no stone left unturned that would inure to your benefit, and at the conclusion of the hearings I think that all felt well pleased with the work done and the showing made.

I consider this the most important case to the live stock industry of the middle west that has come before the Interstate Commerce Commission, and this no doubt accounted for the anxiety and alertness on the part of these different organizations; and the stockmen should appreciate the splendid service rendered by all of these men.

In this case you have very forcibly illustrated the value of the late amendment to the interstate commerce law, for which this association had so persistently contended for years, and which gave the commission power to suspend advances until the shippers' side could be investigated and hearings held, and which also places the burden of proof on the railroads. Had it not been for this amendment these advances would have gone into effect as proposed, and there would have been but little hope for relief through a reduction. And had this advance gone into effect it would have cost the farmers and stockmen of this state something like one-half million of dollars yearly additional freight on their stockers and feeders—an amount certainly worth making a fight for. And I will just say that we have made a good case and a strong defense, and it is now up to the commission to determine if the railroads are entitled to the advance in the face of the showing made by the stockmen.

Then there is another matter just here that I want to call attention to, and that is the Iowa-Chicago rate on sheep, as our members are very much mixed up on this rate. In February of 1910 the Interstate Commerce Commission handed down a supplemental decision in the case of this association against the various railroads, in which we were asking for lower rates on live stock to Chicago. In this supplemental decision the commission say, among other things, that sheep shipped in double deck cars should take the cattle rate and the cattle minimum, and that where a shipper orders a double deck car and reasonable time is given, if the railroads furnish two singles in its stead, the double deck minimum rate shall apply. And in closing its decision the commission say that a reasonable time will be given for the railroads to adopt the changes in rates recommended, but if they fail to do so, an order will be issued requiring them to comply with the findings of the commission. Now the facts are that the carriers adopted without an order all of the rates recommended except the one applying to sheep shipped in single deck cars when doubles had been ordered. And neither the officers of your association nor the commission caught onto this fact until the sheep began to move to market during the last winter. We then took the matter up with the commission, and asked them to issue an order requiring the railroads to apply the double deck rate on sheep shipped in single decks, where double deck cars had been ordered. We have been at work on this case all summer, and when Mr. Thorne was in Washington, D. C., in October, he took the matter up personally with the commission, and we very much hope that it will issue the order in the near future, and that the stockmen will soon have the benefit of the lower rate on this class of shipments.

Notwithstanding the fact that the reduced rate on sheep in double deck cars went into effect in May, 1910, many of our shippers have been charged the old rate, and to all who have thus been overcharged, I want to say, put in your claims at once, if you have not already done so, for the overcharge. Look at your report of sales from your commission firm, and see what rate you paid. It should be the same as your rate on cattle. If it is higher, you have a refund from the railroad company coming to you, and you should have it. The mix-up on this rate came about on account of the railroads not complying with that portion of the decision of the commission, and not from any fault of the officers of your association.

Now, just a word about shipping your feeding sheep in. For some three or four years I have been calling attention to the double deck rate on feeders, and advising our sheep feeders to order double deck cars in shipping their sheep in. Many of them seem to forget this, and persist in ordering single deck cars, and then wonder why the rate is so high. The facts are that under the Iowa distance tariff and the rule that applies, it costs more to ship a single deck car one hundred miles than it does a double deck. That is caused on account of the three-fourths rate not applying on sheep where single deck cars are ordered, but which does apply where double deck cars are ordered, regardless of the car furnished. So I say again, if you want the lowest rate, order only double deck cars.

At this juncture, I wish to speak of the mode or system of handling claims, largely followed by our membership. Early in the life of your association the board of directors decided that the association could not take up the burden of looking after and collecting claims against the various railroads for the membership at large, as the board felt that the work and expense would be too great for the small membership fee received. But some four years ago your executive committee made an agreement with W. C. Strock, a prominent attorney of Des Moines, whereby he agreed to collect all such claims of the members as could be collected without suit in the courts for fifteen per cent. If suit was brought, the claimant and Attorney Strock were to fix the fee for the service rendered. The first year or two this plan seemed to work fairly well, and Mr. Strock adjusted and collected quite a large number of claims. But later on the membership drifted away from this plan, and would file their claims through their commission man, and through their local agent at their home station; and then if the claim agent refused to settle the claim, or offered such a small sum that the claimant would refuse to accept it, the claim would then be sent to Mr. Strock, to see what he could do towards collecting it. This plan has caused much dissatisfaction both from the membership and the claim attorney. From the standpoint of the attorney, it is certainly unfair to send him only such claims as the railroads have either refused to settle, or offered such an inadequate amount that the claimant would not consider it. The claim agents of the different railroads no doubt also took advantage of the situation, because they would recognize that only the very undesirable claims were being handled by your attorney, so that the settlement of such claims would be very slow and unsatisfactory.

In this matter we should have a definite system and plan of action. If you are going to have a claim attorney, I believe all claims—good and bad—as well as indifferent—should be filed through him. If this was done, the railroad people would soon learn that he represented the members of this association, and that their claims were filed through him, and that he would look after the collecting of same; and there is no question but that the claims would be treated fairer and a much larger per cent paid on if this plan was closely observed. If this manner of handling your claims is not satisfactory, then it remains for you to work out one that is, for I believe the time has come when we should adopt something tangible and something that will meet the needs of our members in this department, as the question of claims is a very important one to your members. Some members have the impression that this association collects these claims free of charge, and quite a little confusion has arisen from this source. This, no doubt, is due to the fact that the claim attorney's name appears in the literature of the association. Now I hope you will give this matter proper consideration at this meeting and work out a plan that will be both lasting and beneficial.

Now, just in this connection I wish to call special attention to our shipper's report blanks, which are gotten out for the purpose of ascertaining what kind of service you get, how fast or how slow they haul you, how many men they crowd into a way-car or caboose, and many other things that you should keep a record of. The officers of your association receive many complaints during the year in regard to poor service and crowded conditions of way-cars, and all such things, and yet only a very small per cent of our members fill out one of these shippers' report blanks when they ship, and mail it to the secretary. It is very difficult for the officers of your association to correct these abuses unless they have something tangible to work on. I verily believe that if every member, when he ships live stock to market, would fill out one of these blanks and mail it to Secretary Wallace, so that your officers could go before the railroad people and present these facts as they exist, that they could be corrected. But if you fail to co-operate in this work, it will be impossible to secure for you the service and treatment you should have.

If you forget to take the blank with you, make a note of these things in your little day book, and when you get back home, fill out your report from this diary, and send it in. Keep a supply of these report blanks on hand. You can get them at any time from the secretary. Now, let me urge upon you to send in these reports on every shipment. It is for your benefit, and you will be doing yourself a favor and helping the association by doing this.

Now, just a word about your troubles when shipping. I often meet members and they tell me about being overcharged in the rate, or they have had trouble with their shipment, in some way. To all such I want to say, do not wait until you see one of the officers in person, as it may be a long time; but write at once, either to the secretary or president, and state your case, and it will receive prompt attention. The officers are always glad to help you out; but they don't know anything about your troubles unless you write them, so I trust you will feel perfectly free at any time to send in your complaints.

Now, for the next few minutes let us take a look into the future of the live stock industry of the corn belt :

In my last two addresses I called your attention to some of the developments that were going on in the South American republic in the live stock business. And I believe the time has come when we should view with alarm these developments. Some of our big American packers have already established themselves permanently in the Argentine. They have procured large tracts of grazing lands, and are stocking up their ranches with an improved type of beef cattle, and by the use of thoroughbred sires they will soon produce as good quality beef cattle as are produced here; then they will slaughter these cattle in their own packing houses and ship the dressed meat into this country to compete with our corn-fed beef, for it must be remembered that with their cheap land and cheap labor and feedstuffs, that they can produce beef in that country for a little more than half what it costs here.

The most alarming move, and I think the one that should especially impress us with the approaching danger, is the Morgan-Rockefeller combination, which has formed a company with millions of dollars of capital, and employed Murdo McKenzie, one of the most prominent cattlemen of the west, as manager, and have purchased hundreds of thousands of acres in Brazil, and are going in the ranching business on the American plan in that country. Here we have a combination that it is worth our while to analyze. Here are men with unlimited means, selecting the most prominent leader among the western cattlemen to take charge of their company as manager, and going into the ranching business in South America to furnish cheaper meat for our citizens to eat, and to force the stockmen of the corn belt to compete with this class of meat. Now, there will no doubt be a move made in this present congress to take the duty off both dressed meats and live cattle; if the farmers and stockmen permit such a bill to be passed, then they must come in direct competition with this cheap meat from these southern countries. Argentine has already broken into the British markets with her dressed meats, and has become a strong competitor for that trade. And our export trade in dressed meats has shown an alarming decrease to those markets in the last few years.

Now, what we want is to bestir ourselves and prepare for a determined fight against any bill that would place cattle and dressed meats on the free list. We must not only be able to go after our own senators and congressmen, but we must also go after senators and congressmen from other states, and show them the danger of such a procedure. Now, I think I have said enough on this subject, but in order to confirm what I have said and to impress you more deeply with the necessity for determined action in order to protect your interests, I want to read to you at this time a letter written by Judge Cowan, of Texas, on this subject. Judge Cowan has for years represented the western and southwestern cattlemen as their attorney, and has especially looked after their interests in congress, and is, without doubt, one of the best posted men we have on these questions, and I consider his letter of great significance at this time. Here is what he has to say:

> So important is the crisis confronting the cattle interests of the United States by the proposals which will come before the next session of congress to place meats, and probably cattle, on the free list, and the proposal to enter into a reciprocity treaty with Mexico, that I write this communication to you to point out the danger, and to suggest that action be taken looking to the enlisting of the stock raisers in every community in live stock producing states to command their representatives in congress. I am forced to the conclusion that if it is not done, meats and cattle will go on the free list.
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> The two reasons which the Congressional Record shows that both democratic and republican senators and congressmen who voted for it gave for free meats, and those defending free live stock from Canada in the Canadian reciprocity treaty, were, first, that meats are too high to the consumer, and, second, that it would curb the "packers' trust."
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> There was another and more cogent reason which influenced some democrats, which found expression in various forms, and that is that the tariff affords protection, and they are opposed to that, even to incidental protection arising from a revenue tariff in case of food products and in case of raw material. Adding together those who are influenced by the one reason or the other, it is certain that a majority of the house, and possibly a majority of the senate, are today in favor of these enactments so inimical to the cattle industry in particular. Unless by a campaign of education in every community we can arouse the people to a sense of the danger, and

secure thereby from them a demand of their respective congressmen in stock raising states to make a fight for the stock raiser, and the farmers who produce live stock or feedstuffs or both, we are almost certain to lose. It is up to the stock raisers to do it, and to do it requires a systematic campaign that will arouse public sentiment.

As the situation is today, the men who voted for these measures are defending their course, and there is so little knowledge on the subject that even those who feel certain that congressmen and senators were wrong are not prepared to debate the subject, or not inclined to do so, and the press of the country is largely in the same fix, even the live stock and farm journals. To change this situation requires united and individual efforts of the stockmen and farmers. With it they can succeed; without it they will not.

Some of these arguments are born of want of knowledge on the part of congressmen and senators, as to the effect these enactments would have. We must of course concede that they are honest about it, and therefore willing to change their views if it is shown that great harm will result to stockmen and farmers. Again an aroused public sentiment controls the actions of those who fear it. No doubt most farmers and many stockmen, and those who in one way or another are interested in the success of the live stock business, like bankers, merchants and commission men and others, do not fully appreciate the danger. To all of these the facts must be presented, so they seeing the danger, will from self-interest use their endeavors to avert the danger by urging their own congressmen and senators to take up the fight in congress in behalf of the live stock interests. The means of information is not generally open to any of those I have mentioned, or is difficult to obtain, and so the facts and arguments must be collated, and these associations are the only ones to prepare and put it out. It costs something to do it, but self-preservation demands that it be done, and the cost will be comparatively small.

Now, having pointed out the reasons urged by our opponents as grounds for supporting these measures, let me point out briefly the answers:

The claim that meats are too high to the consumer can not be remedied by importation of meats free, without changing the system of supplying the retail trade, as proven by the fact that when there is a reduction in the wholesale prices, the retail market prices do not show that they fluctuate with the wholesale price in the carcass. The amount of the tariff is one and one-half cents per pound on fresh meat. At present there is no country from which fresh meats can be brought in quantities worth speaking of, except Argentine, and there can be no doubt that meats laid down in New York for sale would be sold very close to the prevailing price for domestic beef wholesale for the same quality at the time, but enough under to get the trade. No one would expect the packers to give up the whole of the one and one-half cents taken off the tariff. Armour and Swift, and perhaps other packers, are interested largely in the Argentine, and as they have their storage houses and agencies in all eastern cities, they would have an advantage over their competitors in the meat-packing and supply business in the Argentine, so they would most likely supply the trade as against those not having such facilities. Our other large packing houses, Morris & Company, Schwarzchild & Sulzberger, and Cudahy, having their establishments in New York and other eastern cities, and they would, in their own protection, either acquire interests in the Argentine packeries, build their own packeries, there, or buy on consignment the Argentine beef shipped to New York by the Argentine packeries. No man of good common sense would expect that a very material reduction at wholesale would be made, under the wholesale price of American beef. Whatever it would be, there is little reason to expect to find its reflex in the retail price. But if we offer to the big packing interests free Argentine beef, where cattle of good quality are so much cheaper than here ($30 and $40 for steers fattened on alfalfa largely, weighing 1,250 to 1,400 pounds), they would naturally go there for such supply as they could lay down most profitably in New York and other eastern cities, and refuse to pay the cattle producer here a materially better price for the same quality. As the figures I submit show, they go there for their English supply, except the corn-fed steers not yet produced extensively in the Argentine.

That condition of supply and demand have forced up the price of cattle in spite of the packers and other buyers this fall, can not be doubted, nor can it be doubted that if they had access to Argentine beef, free of duty, present prices would not long prevail. But that would not necessarily mean that meats at wholesale would be much cheaper in New York, but it would mean that it would change the source of supply until our cattle prices came down to that level. This would be certain to happen. Free meats would certainly reduce the price of cattle below what it otherwise would be, without probably cheapening beef at retail, materially, if at all.

Once the base of supply and stream of commerce is established from the Argentine, we could not stop it, and gradually, possibly rapidly, their beef would take the place of ours until our prices of cattle go down, so that it would be as profitable to use our cattle. That price would curtail our production when once it is regarded as permanent, and the shortage in beef could not bring up the price materially as long as it could be supplied from the Argentine, whereas if they could not bring the beef here free, a shortage will always tend to restore the price, in spite of the wish of the buyers to keep it down. Brazil and other South American countries would in short order seek our markets under free trade, and the production of cheap cattle there would increase and our business of cattle production would be practically ruined. This is saying nothing of Mexico, which is a very important factor in the production of cheap cattle, and would be of grass beef under free trade. Even if this in the end would reduce the wholesale price of meats one and one-half cents per pound, the present methods of supplying retail trade would in no sense warrant the supposition that the consumer would get that reduction. That would be problematical and experimental. But suppose it should reduce wholesale and retail beef one and one-half cents, and that would be the limit, is it best to destroy beef raising by forcing the sale of cattle at unprofitable prices in competition with cheap labor and cheap land. No one has a right to require the producer to work for nothing or at a sacrifice of fair returns for labor, skill and capital. To do this would impoverish all stock raising, farming, mercantile, banking and other industries of the west and southwest, and even the replenishing of soil fertility by cattle raising and feeding.

So far as curbing the beef trust is concerned, it is plain that their position would enable them to take advantage of free meats without suffering loss that is not imposed of necessity on the producer. Many things must be considered. We have no foreign fresh meat trade to speak of except to England, and that trade has been taken by the Argentine. If they can do that, they can take our own markets. I submit herewith the figures to show our decline since 1906, and the increase in the Argentine trade in England and foreign countries.

Now, the strictly farming communities are vitally interested because permanently cheap cattle means cheap corn, hay, pasturage, cottonseed and cheaper land.

Lessened production would follow permanent low priced cattle, so stock yards, commission men, railroads, banks, merchants and all sorts of business of the west would decline when the volume of cattle business is permanently reduced by reduced prices. The power to purchase manufactures and consumption would decline all along the line.

Once the people are aroused to this certain disastrous result, there can be little doubt that they will command the attention of their representatives. The most important thing is to get the press to take it up.

There is no partisan politics in it, because no political platform has ever declared for free trade in these things. The amount of the tariff is only about fifteen per cent, and that is very low, not objectionable as being too high as a revenue tariff even. The principle of equal rights to all should entitle stock raisers and farmers to a fair share of the benefits of the tariff system, whether levied for revenue or for protection.

But the slogan should be, whereas in this case the stock raiser and farmer produce enough for the supply of the country, we are entitled to this small advantage to insure us the home market, and that it is a discrimination to place us on a free trade basis with no benefits from the tariff system, with most industries on the dutiable list enjoying its benefits, as it will certainly be under any system of either party.

Another thing is that the spirit of retrenchment in expenditures by the government has led to the introduction in the house of a bill to make live stock sold on the market bear the burden, so much per head, of government inspection at packing houses, and that is going to lead to the additional expense of marketing by adding whatever inspection costs, amounting to about eight cents per head on cattle. This the seller will have to pay. The inspection service is a health measure, and should be borne by the government as now and ever since the inspection law was passed. The theory that the packers would have to pay it and lose it is absurd.

Again, on revision of the tariff, hides should go back on the dutiable list. It is true hides have advanced in six months or less, but that reflects on the world price. We know that but for hides being on the free list we could get at least fifteen per cent more than we do, because we produce less than we use. Hides are now about as high as when they were placed on the free list, but are lower than they should be if we, like the leather producer, had the benefit of the small tariff on hides. Shoes and leather manufactures did not decline with the decline of hides last year.

There is only one way for the tariff producer, stock man and farmer to get their share in whatever tariff system we have, and that is to systematically fight for it.

Another very serious situation is brewing, in my judgment, and one that I believe from the standpoint of the people deserves careful consideration, and that is the arbitrary actions of the newly created Commerce Court towards the decisions and orders of the Interstate Commerce Commission. It is noteworthy that the very short time this new tribunal has been in existence, that it has enjoined the commission in a number of cases from enforcing its orders. And in a number of instances it has reversed the decisions of the commission, thus making it impossible for the shippers to secure any relief, and holding the commission up to a state of ridicule. The facts are, the Commerce Court seems to consider its mission to be the nullification of the commission's orders, and, unfortunately, this court has persistently failed to see the shipper's side of the argument in the cases that have been appealed to it.

In my annual address two years ago, at the time President Taft was advocating and insisting on congress passing a bill that would create a Commerce Court, I stated my objection to such a court, and gave my reasons; and the attitude the court has taken towards the commissions' orders has proven that my fears were well founded.

It will be remembered that for years this association fought for and demanded that the Interstate Commerce Commission be given power to make just and equitable rates, and after such rates were presented, that the commission should have the power to enforce its orders. Then after we finally had the pleasure of seeing the necessary amendments which we had contended for enacted into law, which really gave the commission some teeth with which to do business, we see the law emasculated by the creation of a Commerce Court which practically nullified the power of the commission. The question of regulating the railroads through the commission seemed entirely too radical for some, and especially the railroads, so we see President Taft coming out and declaring for a Commerce Court created for the purpose of reviewing the acts of the commission, with full power to reverse the decisions of the commission or enjoin it by law from enforcing its orders.

So you see we have the ridiculous spectacle of congress creating by law the Interstate Commerce Commission, and giving it power to prescribe rates for interstate carriers, with full power to enforce its orders after such rates have been fixed, and then turning around and creating a Commerce Court which should hold an ax over the commission and chop off every decision that was not according to its liking. So, as the matter now stands, we have the commission reduced to the same level it was years ago, when it had no power to enforce its orders, and was merely a figurehead in regulating rates. This is just what your Interstate Commerce Commission is today, with the Commerce Court wielding the ax of disapproval on its decisions, as it has been doing. It has always been my impression that this law was suggested and passed at the instance of the railroads, to escape government regulation and supervision.

Now, the remedy lies in repealing the act creating the Commerce Court, and that should be done at this session of congress. By all means, send these men home that constitute this court, and let them draw their salaries from the railroads they are so anxious to protect, and not from the people whom they are supposed to serve. The people are demanding government regulation of its interstate carriers. Then if congress deliberately mutilates the only law that gives us that regulation, government ownership must inevitably follow. As the situation now is, the shippers have no assurance that when they win a case before the commission that they will secure any relief, as the probabilities are that the Commerce Court will set aside the decision. This, then, being true, I hope this association will take some positive action favoring an early repeal of the Commerce Court.

Now, let us take a little resume of the work done in building up your association during the past year, and some of the things it has accomplished since its organization.

In my last annual address, I referred at length to the new plan of securing five-year membership pledges to the association, adopted by your board last year. This plan, as you will remember, contemplated the stockmen giving five dollars annually and the grain farmers and renters the regular dues. That the change from the old to the new system has been the means of placing your association on a permanent basis goes without saying, and had it not been that this change was made, I do not believe your association could have long survived. But under the pledge system, if the work is continued, you can easily perpetuate your organization indefinitely. After the winter's campaign closed and the roads settled, I started out with my canvas among the farmers to secure five-year pledges;

and I am pleased to report that while I did not receive as many pledges or collect as much money as I had expected to, yet, when everything is considered, we have made a very good showing.

The extremely hot, dry weather prevailing over almost the entire state was a serious handicap to my work. The farmers were depressed and discouraged, and it took a much greater effort to secure pledges than the year before. Yet in the face of these conditions, I succeeded in placing back into the ranks of the association six county associations that had not made a report for two years, besides canvassing several counties that were quite active and very materially increasing the membership in those counties. I also organized several locals during the year. So I feel that, considering the unfavorable weather conditions that prevailed, we have made fairly good progress.

One thing I wish to speak of that impressed me very much, and that was very gratifying, and that was the way the members living in those counties that had apparently lost their interest in the association, took hold of the five-year pledge plan and were ready to pledge their respective quotas for the next five years. This convinced me that the farmers do appreciate the value of this organization, and are ready and willing to contribute to its support. This fact should convince the most skeptical that here is an organization that really enjoys the confidence and support of the farmers and stockmen.

The question is frequently asked me by farmers in my work: "Is there any necessity for such an organization, and would I be justified in making a contribution for its support? Or does the necessity merely exist in the minds of a few men who are just a set of agitators?"

The best answer to these questions is a careful review of the work accomplished by your association since it was organized.

And now, lest we forget and our memories become dull from the lapse of time, let us just take a glance backward and see how many credit marks you have received in the past eight years.

First, secured the return of the stockman's pass to the shipper.

Second, improved the running time and service of stock trains.

Third, changed the mode and system of handling, selling and weighing crippled hogs at the Chicago stock yards, so that the farmer now gets a fair value for his crippled hogs, whereas, at the time your organization was formed, you only received fifty per cent of their value.

Fourth, secured a reduction of eighteen per cent in the Iowa rates on live stock, which made an average reduction on all shipments of stockers and feeders from Omaha or Sioux City to points within the state of about $4 per car, making a total saving of over $50,000 annually to the Iowa farmers.

Fifth, secured a further reduction in the rate on feeding sheep of from twenty-five to fifty per cent.

Sixth, secured a feeding in transit privilege on cattle and sheep from the range territory into Iowa.

Seventh, fought a case before the Interstate Commerce Commission and secured a regrouping of the Iowa-Chicago rates on cattle and sheep, and making sheep in double deck cars take the same rate as cattle. This reduction made of a saving of over $100,000 annually to our feeders.

Eighth, the officers of this association, in connection with the officers of the Live Stock Shippers' Association, of Monmouth, Ill., and a few commission men, during the spring of 1910, secured a change in the water at the Chicago stock yards, from the Bubbly creek, or sewage water, to the use of the lake water. This change in the water reduced the shrink, according to figures received, about twenty-five per cent, and made a saving to farmers and stockmen of from $15 to $25 per car on their cattle. Figure this out for yourself, and see what it means to individuals.

Ninth, represented the farmers and producers before the Interstate Commerce Commission to prevent a general advance in rates, that would have cost the people of Iowa over two million dollars a year in advanced freight charges, and we believe this case was won largely on the facts produced and submitted by this organization. This is without doubt the most important case that has ever come before the commission, and had it not been for the Corn Belt Meat Producers' Association, the farmers and stockmen would not have been represented in the case.

Tenth, secured a decision and an order from the Iowa Railroad Commission, preventing the railroads from increasing the minimum on live stock cars used within the state, which order is now suspended, pending the outcome of the rehearing of the case. This decision alone means over $50,000 annually to the farmers and stockmen of Iowa.

Eleventh, took a leading and active part in defending your interests against the proposed advance in rates on stockers and feeders before the Interstate Commerce Commission, which advance, if allowed to go into effect without protest, would have cost the Iowa feeders one-half million of dollars a year.

Besides all this, your association has been a powerful influence in securing good, healthy, legislation, both in congress and in the Iowa legislature, to benefit and protect the Iowa farmer and stockman, and to place him where he rightfully belongs.

Now, with this list of benefits and accomplishments, which I have enumerated before you, and which have been placed directly to the credit of the Corn Belt Meat Producers' Association, do you, brother farmer and stockman, feel that this organization has justified its existence and that you have value received for every dollar that you have contributed towards its support? If you do not, I would like to ask you how large a per cent in returns you expect on your investment.

Besides, I do not believe it is at all fair to measure the value of this organization simply by what it has accomplished in actual results, as no man would attempt to say what conditions would have been, and the very many unjust rules and laws that would have been forced upon you from different sources had your association not been a very potent factor to reckon with. Who is there that does not believe that your organization has been a great factor in checking and preventing railroads and other corporations and organizations of wealth from forcing upon you a great many unjust measures in the past eight years. Its purpose is to safeguard your interests and give all a square deal.

Now, if these statements are accepted as facts, and I believe they will be quite generally, then there can be but one conclusion to arrive at so far as the farmer and stockman are concerned, and that is that there is a demand and necessity for such an organization. Then, if there is such necessity, the organization must be supported by somebody. Then the question comes direct to the farmers and stockmen, who are being protected by and receiving the benefits from the work of this association: Are you each one, singly and collectively, willing to do your part and contribute a small amount each year to maintain this worthy organization? I know that each one of you wishes to do his part and would not think of slipping through on the other fellow's liberality. But so many just neglect to contribute, and in this way place the burden on a few.

I remember I said to a member whom I approached during the summer for a pledge: "Do you feel that you can give five dollars a year to this association? "Well," he said: "I think I can, for it is the best investment I ever made, and I have gotten larger returns on the money I put into that association than anything else. Why," he said, continuing, "a man doesn't have to get very much protection from this organization to get five dollars a year out of it. The satisfaction of knowing that I have someone looking after and protecting my interests is worth all it costs to me."

This is certainly the right spirit and the correct view to take of this association, and if our farmers generally would take this view, what a formidable organization you would have.

Did you ever stop to consider that the strength of your organization is in its membership and not in its officers? That if you had ten thousand members you would be ten times as strong as if you only had one thousand, and that your influence for good would be ten times as great, and that you could accomplish much easier the things you go after?

Now, I have gone into the work done by your association quite generally; not alone for the benefit of those present, but for those farmers who do not attend these annual meetings, with the hope that we may succeed in interesting them in this work and inducing them to join our ranks and help make a good organization better. The Corn Belt Meat Producers' Association has shown that it can get powerful results for the farmer and stockman. Then, my friends, why not join in with it and make it the organization it deserves to be? Throw your influence and support with the men who have been fighting your battles for you, and they will appreciate it and you will have the satisfaction of knowing that you are doing your best to help the work along.

Now, just a word about Iowa, the greatest agricultural state in the Union; the state that produces forty per cent of the live stock shipped to the Chicago market; the state that has more fertile acres, with less waste land, than any other; the state that has the most progressive lot of farmers as a whole; the only state in the corn belt that has a corn belt association that does things and protects the farmers and feeders of this splendid commonwealth.

We have a band of men headed by Professor Holden, working in our agricultural college, working for a greater Iowa, and I have been wondering why this organization can not join in boosting this great state. We have the most representative farmers in this association. We have the men in every locality where we are organized that really do things. Then, why not join in with the force at the college with a will, and make things go? Help in every possible way with the farmers' institutes and short courses, and all other movements that tend to build up your state and make it a more desirable place for farmers to live. Let us try to keep the young men on the farm. If we do this, we will all be boosting for a greater Iowa.

During the past year death has entered our official ranks and removed from our circle our beloved brother and co-worker, Hamilton Wilcox, of Griswold, Iowa, director from the Ninth Congressional District. Mr. Wilcox was a man of sterling integrity and genial personality, and the better you knew him, the more you loved and admired him. He attended our first meeting, and took an active part in the formation of your organization. He was elected director for the ninth district at that time, and served continuously in that capacity until his death, October 21st. During the summer I spent a week with Mr. Wilcox, canvassing Cass county, and I learned to esteem him very highly, and I feel that the Corn Belt Association has suffered a very great and irreparable loss in his death. And I would recommend that a suitable memorial in appreciation of Mr. Wilcox' valuable services to this association be prepared by this convention and published in the coming annual report.

Now, in conclusion, I wish to say that while we have not realized our ambitions and seen the association built up as fast as we had hoped for, yet we should not get discouraged, for we have made progress. The building up of this association means a steady grind—every officer and member doing his best to increase the membership and bring the organization up to a high standard of efficiency. Don't think your president and secretary can do this, for it takes more than an official board to make an efficient organization; and whatever you do, never allow yourselves to lapse into the idea that the officers can run your association. Whenever you do this, your organization is doomed. The farmers and stockmen constitute this organization, and your duty and privilege is to say who shall be your officers and how you association shall be conducted. If you zealously maintain this vigilance over the creature of your care and pride, you can have an organization that will be a blessing to future generations. In other words, your organization in the future will be just what you make it.

Under the new plan of securing membership pledges which you have adopted, the president of your association, who is expected to do this work, can not succeed without the hearty cooperation and support of the local men in canvassing among your farmers, and you should not expect him to go out as an agent selling insurance or patent medicine. If you do, you will soon bring your association into disrepute, and gossip will be circulating all kinds of stories about your officers. If you are not willing to make the sacrifice to help make the canvas, your organization will not grow very fast. So I hope that during the coming year that your president, whoever he may be, will have your hearty co-operation in this work.

It is not fair to your officers nor the association, for you to elect officers and refuse or neglect to cooperate with and assist them in building up and caring for your organization; and I wish to bespeak for my successor your hearty cooperation and support.

I wish here to call attention to my expense account, and I regret that, although I have been as economical as it seemed possible to be, I have been unable to keep down my expnses. This is due entirely to the fact that I was obliged to hire so much transportation while canvassing among the farmers, and yet some of our local supporters freely donated their time and the service of their autos and driving teams in making the canvass for the association. To all such, and to others who so unselfishly sacrificed their own interests to assist in the work on behalf of this association, I wish to extend to you our hearty thanks.

Then, I do not believe that we should forget the daily and weekly press, that has so generously published to the world the work accomplished by this organization. It is my judgement that we do not fully appreciate the help that we secure from this source. So, in behalf of your association, I wish to extend to all such papers our hearty thanks, and to say we shall always appreciate your support.

As president of this association, I feel that it would not be proper for me to close without expressing my appreciation of the services of your secretary and board of directors, and also the loyal band of helpers scattered here and there over the state, who have labored so unselfishly to build up and advance the interests of your organization, and I personally, and in the name of the Corn Belt Meat Producers' Association, desire to thank you one and all.

Now, as a parting admonition, I want to say: Never give up your organization, nor lose interest in it; but work for it, support it, and in every way possible boost it along. You have made great progress in the past. There has never been a farmers' organization that accomplished such splendid results, and you should be proud of it. Now, if you would make the coming year the banner year in the life of your association, we should all join hands and work to this end. So, hoping that every member will resolve in his heart to do this very thing, and hoping that you may be abundantly blessed in your efforts, I leave the work in your hands.

I thank you.

The following paper was then read by Charles Escher, Jr., of Botna, Iowa:

THE SELECTION, FEEDING AND FITTING OF A CARLOAD OF SHOW STEERS.

CHARLES ESCHER, JR., BOTNA, IOWA.

This seems a fitting text upon which to hang a few remarks illustrative of this life work that I am engaged in, and to mention some of the merits of the remarkable progress achieved by fitters of carloads of fancy steers.

While I will endeavor to confine myself to the text assigned me, I may of necessity, for illustration, wander from my subject during my discourse. I but utter a truism when I say ours is a great nation. Although the youngest of all the great nations of the earth, she has already achieved a degree of success and prosperity unexampled in the history of the world. Already in vastness of domain, in rapidity of development, in unrivaled resources, in inexhaustible wealth, and in fertility of appliances and wonderful inventions, she stands at the head of the nations of the world.

With an area more than three times as large as Great Britian and Ireland, France, Germany, Austria, Italy, Spain, Portugal, Denmark and Greece, or all of the most civilized nations of the globe put together, containing more than half of all the fresh waters of the globe, with a population that has doubled itself every twenty-five years since 1865, and with argicultural recourses capable of sustaining and enriching one billion inhabitants, can anyone question the future greatness of our country, or its vast influence for good or evil on the rest of the world?

It has been well said that "to the people who own and till the soil belongs the nation," for the soil of a nation is the primary source of a nation's wealth.

Agriculture is the greatest wheel of all American industries, and stock-raising, in my estimation, is one of the main spokes of this great agricultural wheel. Our country is a country where men have been obliged to do great things, and nothing seems too great for achievement in the minds of the American people.

The fitting of stock for shows and exhibition purposes was practiced by our ancestors across the sea more than a century ago. Being imbued with the idea that the shows and exhibits were great object lessons for the stockman, and especially for the young beginner, our people began to inaugrate numbers of them, and while we are a comparatively young nation in this line of work, we can already point with pride to the International show at Chicago as the greatest annual show of its character on the face of the globe. There it was that fancy cattle in carload lots were first shown in considerable numbers, until at this recent International, there were brought together for competition from all over the United States, one hundred and eighteen cars of cattle.

Ours is a country of large ideas, and not content with the practice of feeding and exhibiting single animals in class, there became a demand for exhibiting in carload lots. The feeding of carloads of fancy steers for show purposes has become a specialty, and the men who have been successful in winning prizes in these classes are men who specialize in this particular work.

And now as to the selection of a carload lot of steers: We can not intelligently or understandingly consider this subject without first considering the type and conformation necessary for a good beef steer, and then group such animals in sufficient numbers to have a carload lot, fifteen head being the required number. The general appearance of a beef steer, if of correct type, should show a distinctly meat-producing form. By this I mean he should be compact and uniformly broad of back from crop to hooks. He should have sufficient depth of body, deep in his quarters, and especially should the steer have a broad, deep, full bosom, denoting strong lung power. Viewed from one side, his top and bottom lines should run parallel. Bear in mind that unless you have strong, level lines, you can never hope to have a ribbon winner. The steer should have a short, neat neck, with clean cut throttle. Last, but not least, the steer should have a good head.

By a good head, I mean one that has strong muzzle, with nostrils somewhat prominent and large, which shows ample breathing capacity to supply a pair of strong lungs. A short muzzle is preferred; never select a steer that is great in length from his eyes to the tip of his nose. Forehead should be wide, large ears, slightly rising upward, and covered well with hair. A blemished ear detracts materially from the general appearance of your show steer. With all these requisites, remember that a mild, quite eye invariably means an easy feeder, while a nervous, restless eye usually means an unsatisfactory steer and one irritable to handle. Similarity of steers thus described will bring about the desired uniformity of your carload lot, which is most essential nowadays if you are in the winning. But to be successful in the production of high-class show steers, I have found it very important to have the right kind of breeding, and then follow up with the right kind of feeding, and not upon one alone, but upon both, will depend your success.

Good breeding along beef lines of ancestry is not essential for the production of a high-class carcass of beef, as many a scrub bred steer develops into a good carcass, but good breeding is most essential to secure that high standard of perfect beef conformation which is necessary to have in a load of finished steers if you hope to win. Thus, it requires breed type to hold uniformly in the finished steer, and this uniformity of breed type is a strong expression of high quality.

Now, I think you will agree with me that good blood tells, but bear in mind that a part of the breed must of necessity go in at the mouth, or, in other words, the corn-crib cross is necessary. You may buy animals of the bluest strains of blood and the most perfect conformation obtainable, and yet, if you fail to feed them properly you can not hope to win. And now the question arises, how to feed a carload of steers. You are aware that doctors differ, and judges disagree; and, likewise, fitters of show cattle differ very widely in their methods of feeding and the procedure of fitting and trimming. I prefer having the steer from calfhood up, so I may acquaint myself with his individual needs and his temperament. Remember that all steers are not alike, and that a good ration for one may not be sufficient for another. The calf should be taught to eat grain as soon as old enough. A mixture of equal parts of whole corn and oats, with a light sprinkling of oil meal, makes a splendid feed for the youngster. If in winter, feed alfalfa or clover hay with the above mentioned grain ration. Presuming that these calves are to be shown as yearlings, I will now deal with them at weaning time, which should be about December 1st, or before, until the following December, when they will land at the International at Chicago. I prefer feeding a two-year-old for exhibition, as an expert feeder can produce that uniformity of ripeness and perfect finish which is almost an impossibility in a load of yearlings.

My reason for selecting for my illustration a load of yearlings is that modern demand indicates a great change in markets, and cattle feeders and fitters must of necessity conform with modern requirements. We have made a thorough test, putting before the judges (men of national reputation) two as good loads of fancy Angus beeves as our money, judgment and brains could produce. The one was a load of two-year-olds, weighing close up to 1,500 pounds each; the other was a load of yearlings, equally as good, but smaller, weighing 1,200 pounds each. And what was their verdict? The handy-weights received the championship honors over the older brothers.

During the winter, avoid close stabling, open sheds to the south being preferred. Keep well bedded, as comfortable winter quarters insures contentment, and contentment is a prime factor necessary to insure good gains. Avoid the use of stale grains or musty roughness, for such feeds never stimulate an appetite. Change your ration and mix your feeds so they are palatable. Remember that a ration becomes less palatable if limited to few feeds. No matter how carefully a balanced ration may be fed, it will not prove an economical one unless supplied in sufficient quantity to meet the requirements of the animal.

There is a possibility of under-feeding an animal as well as over-feeding, for best results. In the early period of your feeding, avoid over-feeding of carbohydrates, but rather, feed stronger with protein feeds, as this will tend to marble your carcass, and the steer when finished will be void of that patchiness which the butcher has learned to despise.

Over-feeding will, without fail produce roughness, and the steer will arrive at the stage of full bloom long before the feeding period is completed. The products of the farm are about all that is necessary to make up the bulk of your feeds. Oats is a splendid feed, but if too high in price, feed three parts of corn to one part of bran, with a fair allowance of oil meal. If feeding oats, corn and bran, feed two parts corn to one part oats and one part bran, by measure and not by weight. Change your feeds from time to time, feeding cottonseed meal, oil meal or some molasses feed to stimulate an appetite.

Do not deprive your steers of exercise for best results, as health and vigor are promoted where animals are allowed to move about. Dur- the winter seasons, they should have ample yardage to move about.

and especially does this apply to young animals. When spring comes, I give them the run of a good grass field, blue grass being preferred. Greater gains come from summer feeding on grass than from winter feeding, as grass seems to take the place of grain to a certain extent, and grass, you know, is nature's feed for cattle. Some feeders prefer to not turn their cattle on grass until the grass has made a good growth I think this is a mistake. I believe in turning out the steer in the early spring, when Doctor Green is just beginning to make his appearance, and thus gradually accustom them to the change. Too sudden a change often works disaster and the steer is caused to scour. From June on, if the pastures contain clover, a grain diet consisting entirely of corn may be fed, as clover supplies the protein necessary for an almost balanced ration. If the pasture is mostly blue grass, supply protein in the form of oil meal or cottonseed meal; the latter being preferred from grass time on.

In the early fall, supplement with part new corn, and this may be done with excellent results if fed carefully. (I now have reference to corn in the roasting ear stage.) The attendant should remember that quiet and contentment are always conducive to the best results, and a curry comb, if properly handled is all the club necessary in the feed yard. Variety is the spice of life, and to obtain best results it should be furnished when feeding cattle for show or market. Change your feeds from time to time, bearing in mind, as the period of feeding draws to a close, to substitute feeds that are strong in carbohydrates and less nutritous in proteins, so that your steers arrive at that finished stage when market time arrives. The feeding of too much roughage tends to not only lessen your gain, but it tends to do injury to that conformation that is desirable in a show steer. A paunchy steer does not appeal to the killer, and a steer of this type in your load detracts from the merit of the load. Avoid over-ripeness, as patchiness does not appeal to the butcher buyer. Bear in mind that smoothness spells quality in big letters.

Some of the many requirements necessory if you hope to win:

You will know that your cattle are broad enough when they have made a double path leading from the barnyard out to the pasture field. If weather conditions have been normal, there will be a narrow strip of grass growing in this double path. After a rainstorm, it will be found necessary to move the steers about so the water will drain off their backs.

In preparing their show coats, it will require much elbow grease, and when you have them shining so that you can see yourself as others see you, then you can begin to draw your own conclusions as to where you will land on show day.

As I have stated before, variety is the spice of life, and to be successful in your fitting operations, your steers must have a menu elastic enough to embrace everything in the cattle-feeding world from soup to nuts.

You will agree with me that there are numerous requirements necessary to select, fit and feed a load of show steers, but a summary of the text which I have tried to discuss narrows down to three important factors: Selection, feeding and fitting. If the work has been well performed, the selection must of necessity be a uniformity of breed type and conformation. The feeding process, if carried out properly, has produced a finished product in a ripened steer. The fitting and trimming, if successfully done, has brought about a uniformity of condition which, when attained, must of necessity have quality and merit.

AFTERNOON SESSION.

President Sykes presiding.

Hon. Eugene Davenport, dean of the Illinois College of Agriculture, addressed the convention on the subject, "The Redirection of the Stockman's Point of View."

THE REDIRECTION OF THE STOCKMAN'S POINT OF VIEW.

HON. EUGENE DAVENPORT, URBANA, ILL.

We are living in a transitional period in the evolution of live stock husbandry in this country. The time has passed when a man on his cayuse can produce cattle by the hundreds by simple process of herding on the public domain, and walk them into market, feeding and fattening as they go. This period is behind us, but we have not yet devoloped those forms of animal husbandry that will ultimately go with a finished American agriculture. It is but natural that many difficulties and not a few losses should be encountered in making an adjustment that is so radical and that has come upon us so suddenly and with so little warning—an adjustment, moreover, that calls for some radical changes in our point of view as well as in our habits and methods of carrying on the business. It is to some of these readjustments that I would call your attention today.

I find a fairly widespread feeling that the live stock business, particularly the cattle side of it, is at best nearing its end, and that people who from habit persist in feeding for the beef market are staying with a practice long after it has ceased to be profitable. These people have been impressed with the fact that our population has on the average doubled every twenty-five years since this country was discovered, and that at anything like the present rate of increase we shall shortly need all the land on which to grow crops for human consumption; in other words, that American lands will soon become too valuable for the support of live stock.

Now this is a hasty conclusion, and one which ought to be analyzed. In my opinion, live stock husbandry is a permanent feature of American agriculture for a variety of reasons, chiefly the following:

First of all, the greatest American crops are corn, alfalfa, cotton and wheat. Three of these are food crops, but only the last can be consumed to any great extent by human beings. Both corn and alfalfa hold indispensable places in the rotation, because they are heavy yielders, and for the additional reason that corn is an exceedingly good cleaning crop and alfalfa a source of nitrogen, but both are animal foods. Other crops, to be sure, may be equally useful with corn for cleaning purposes, but they are not suitable for human consumption, and all the nitrogen producing crops that work well on land in large areas are distinctively fodder crops.

These considerations, together with their special adaptability to our soil and climate, will retain both corn and alfalfa as permanent elements in American agriculture, and because that is true, if for no other reason, the live stock industry is to be regarded as permanent.

A second reason why live stock will remain as a permanent feature of American agriculture is the Anglo-Saxon's love for animals. Statistics of western Europe show that with the increase of population the percentage of animals does not decline, but remains practically constant, as per the following table, for which I am indebted to Professor Mumford.

LIVE STOCK AND POPULATION.

Country.	Population per square mile.	Total live stock per square mile.	Cattle per capita.
Belgium	643.4	279.8	1907—.24
Britain	345.8	404	1908—.25
Germany	290.4	262	1910—.25
Germany	......	......	1907—.33
United States	25.6	67.8	1867—.51
United States	......	......	1910—.77

This inherent love for animals and for their production is evidently a racial characteristic with our people and it constitutes a second reason why animal industry is likely to prove a permanent feature of our agriculture.

A third reason for the permanence of this industry lies in the scale of civilization which we shall undoubtedly adopt and maintain. If the American ideal were to produce large families for the sake of the labor of the children, regarding every member of the family as an asset for earning a living, our population would rapidly approach the point where the land would be no longer able to support it, because people multiply by geometrical progression indefinitely, and the land has a very low limit to its increased production. This has been substantially the history of China—a country which has given up its animals and in which the one problem is that of securing enough from the land to feed the people. Under conditions such as these, there is no margin of safety, and when the lean years come, famine is inevitable.

The American standard of living, however, is on a higher scale. We have a system of universal education, for example, which demands the children for the first fourteen to twenty years of their lives. Under such circumstances our young people are a liability and not an asset. The women of our race are considered as mothers and home-keepers, and not as laborers. We expect to surround our families not only with the absolute necessities of life, but with many of its luxuries, among which we have, up to date, counted the service of domesticated animals. And as long as we consider the on-coming generation of children is to be cared for and educated and developed for its own responsibilities, instead of regarding it as a means of supporting us in our generation, just so long will quality be uppermost in mind instead of quantity. Whatever individuals here and there may do, the common sense of the masses of men and women will limit the production to such numbers as can be comfortably cared for, properly fed and housed, and adequately educated, because one of the fundamental requirements according to our racial proclivities, is animal food and animal service.

Moreover, a race which so surrounds itself with animal life is not only well served from year to year, but its protection against famine is absolute. If approximately half the acreage of crops is consumed by animal, there is never danger to human life when the lean years come. All that is necessary is to eat a few more animals, whose removal marvelously reduces the consumption of crops.

If we had only a system of private education supported by the wealthy people for their own sake, the unthinking masses might force upon the country as a whole the present conditions of China; but with a system of universal application, which demands that all the children of all the people shall be prepared for their own generation and not used for the maintenance of this, such conditions, as I regard it, are impossible, and here lies the ultimate guaranty as to the permanency of the live stock industry.

Under pioneer conditions the live stock business was enormously profitable, and even somewhat recently the desire has been to buy up two or three carloads of range steers and make "a hatful of money" in ninety days. The breeding business, too, has not been destitute of the speculative feature. There has been much traffic in pedigrees, which is not far from mild gambling. The sales ring has witnessed prices that certainly are without reason in any kind of business sanity—prices that can not be genuine and which discourage the mass of farmers from buying bred stock, especially cattle, as freely as they ought.

It is high time that we sloughed off the whole speculative idea regarding live stock husbandry, and settled down as rapidly as possible upon a solid business basis in which the profits are not expected to be phenomenal, but moderate and stable. I have read much about money lost in feeding cattle in recent years. The loss has been calculated not upon the absolute basis, but upon the fact that frequently the corn would have brought more if sold on the open market than it brought when fed to cattle. How recent prices of corn have been maintained is a mystery to the writer, but one thing is sure—the moment corn ceases to be fed to any great extent to animals, that moment will the bottom drop out of the price; and if people generally should go out of the cattle business somewhat suddenly, we should find the collapse not only in the corn market, but in financial circles as well.

There is no doubt of the fact that if a farmer can market his corn and his alfalfa on the hoof year in and year out at anything like the prices that prevail in the open market, he and his farm will be better off for it, and I hope for the time when we shall assume that animal production on the farm is a legitimate part of the business to be engaged in, from the same principle as we practice the rotation of crops. In general, I suppose the lands best suited for grain production will be used for that purpose, and the rougher lands will constitute the ranges for our live stock; but, after all, the cattle that are raised and the crops that are to feed them should not be produced too far apart. Like coal and iron, the profits are better when the two commodities are produced in close proximity, and the nicest problem of American agriculture today, as I regard it, is the working out of methods by which high-class live stock, especially cattle, may be produced on an economic basis in our corn-growing districts. In settling this question, all matters of speculation will have to be eliminated.

Considering the length of time since the best European breeds were introduced into this country, it is marvelous how many scrubs we have contrived to produce on American farms. Why we do it is a mystery, but we do it. In some way or other the attitude of the American farmer toward his cattle is wrong. He has much more respect for his hogs and his sheep, and horses stand high in his regard. All of them are of much better quality than his cattle, and command higher prices in the farmer market. Two or three weeks ago I saw two colts, dropped in May, sold after lively bidding at a hundred dollars each in an ordinary, typical crowd of Michigan farmers. The colts were ordinary stuff, which ought to develop into good work horses on the farm, nothing more. At the same sale was a Short-horn bull calf, dropped about the same time, grandson of a $6,000 Scotch bull, and from a registered cow. The calf went slowly at twenty dollars.

Until this discrepancy in values as they rest in the mind of the American farmer can be done away with and something like a reasonable appreciation of the worth of well-bred cattle established, we shall never have the proper quality of stuff on American farms. We need a campaign on the value of well-bred bulls—a campaign that shall continue until the price of a well-bred bull is at least as high as a common farm work horse.

I have generally noticed that when a man begins to build expensive barns with heavy basements, his profits in the cattle begin to run down, and presently his herd begins to disappear. All these animals are outdoor animals; they don't need steam heat, but they do need ventilation. We must get over the notion that our domesticated animals, and especially our cattle, should be kept in close quarters. You in Iowa are not as great sinners as we in Illinois, and we not as great as they are farther east; but we all of us look forward instinctively to the time when we can build a big barn, paint it red, have a stone basement, and bottle up our cattle.

Throughout the country the notion exists that an old bull is dangerous and must be gotten rid of. The result is that they are sent to the shambles just at the time when selection could be made between those that are valuable and those that are worthless. The great mass of young stuff in the country is gotten by yearling and two-year-old sires. I do not know whether this immature age on the part of the sire is of disadvantage to to the offspring, but, altogether independent of that, it means that the sires are an unselected lot. There is no accurate basis for judgment as to whether a bull is a good one or not until some of his get have reached a fair degree of maturity, and by that time he is at least four or five years old. This is the age at which the best breeders should be used more freely, and yet it is an age at which most of them are consigned to the block.

Under ordinary farm conditions in this country, the bugaboo of inbreeding, more than any other one thing, stands in the way of the use of mature if not of aged bulls. If this could be removed it would be worth millions to American agriculture. I wish we might have a Divine command touching the point, but in its absence I suppose we shall have to settle down to a campaign of education.

Stockmen the country over, and especially breeders of cattle, have no adequate market for their breeding stock. For the small producer the cost of selling is very close to all other expenses of production, and this in itself is a tremendous discouragement to the breeding of better live stock, especially cattle. What is certainly needed is some scheme of cooperative selling whereby the individual producer can reach the cattle consumer by methods more direct and cheaper than those yet at his disposal. Farmers organized a generation ago for cooperative buying, but in this generation cooperative selling is of infinitely larger importance both with respect to immediate production and the establishment of a permanent and finished agriculture.

The American breeder has been intensely individualistic, almost secret in his methods and ideas. This is narrow and unprofitable. There are no secrets in breeding. Indeed, successful stock production depends upon the widest publicity and the most accurate and far-reaching knowledge of facts about pedigrees and individual excellencies. We know enough of heredity these days to know that the practical breeding value of sires and dams can be established along the lines of inheritance and individual performance quite independent of that subtle genius of the breeder that has been so much exploited. There is a perfectly adequate basis for cooperative marketing, and John Sherman's method of resumption can be applied directly to this problem.

Co-operative breeding, which is bound to come, is more difficult than co-operative selling, but the tremendous cost of the highest class of breeding stock, especially the cattle kind, and the extreme value of phenomenal individuals make it altogether desirable that when a fortunate blood combination is discovered in the breeding world, the utmost possible use shall be made of it. As long as breeding remains strictly an individual enterprise, there are few indeed who are financially able to own animals enough to do really constructive work. Moreover, individual herds are not of sufficient permanence for the greatest public good, few, indeed, remaining together but a short period of time.

When we regard the whole history of any breed, and consider the exceedingly few men who have contributed at all to its permanent excellence, we can not help feeling that most of the good which has arisen during the time has been lost either by remaining entirely undiscovered or else by being in the hands of men unable to realize its excellence. As Hambletonian 10th came near ending his life in obscurity and leaving nothing behind him, so have many potentially great sires missed by a narrow margin their contribution to the world. The only protection against these losses is larger herds of a more stable character, or if not single herds, then individual herds held together by some kind of a cooperative bond.

These are some of the subjects which require a good deal of study from the stockmen just now, many of whom need a readjustment of vision because of the new conditions that are upon us. The live stock interests are here permanently with us American farmers. Of that we may rest well assured. Our real problem is to so reconstruct methods of procedure as to square with new conditions and make the business economically profitable, not in a speculative way, but in the same way that any other established business goes foreward; namely, on a reasonable but an assured margin of profit.

Professor R. K. Bliss, of the Iowa Agricultural College, spoke on "The Cattle Feeding Situation in Iowa," illustrating his remarks with charts.

PRESENT CATTLE FEEDING SITUATION IN IOWA.

PROF. R. K. BLISS, AMES, IOWA.

In discussing the present cattle-feeding situation in Iowa, I wish to first call your attention to the enormous increase in the value of land during the past forty years, and especially during the past fourteen years. In 1870, land in Iowa was worth, on the average, $20 per acre; in 1880, $23; in 1890, $28; in 1900, $43, and in 1910, $96. From 1870 to 1890 land increased only $8 per acre; from 1890 to 1900 land rose from $28 to $43 per acre, or an increase of over 54 per cent. The greater part of this increase was made after 1896, fifteen years ago, or immediately after the period of hard times. From 1900 to 1910, the price of land in Iowa has jumped 123 per cent, or to $96 per acre, and the end is not yet.

This remarkable advance in the price of land has greatly increased the cost of producing beef. One acre of land costs as much today as three and one-half acres did twenty years ago. Thorough drainage and better handling of farm lands has probably increased the production somewhat over twenty years ago, but the increase in production is in no way comparable with the increase in the value of land. It is safe to say that the actual cost of producing a pound of beef on pasture, figured on a fair interest rate on land values, is two or three times what it was a generation ago.

The increase in the cost of feed is another factor which the cattle feeder who relies on buying his corn and hay must give serious attention. With shelled corn costing in the neighborhood of one cent per pound, and clover hay two-thirds of a cent a pound, it takes careful management to make ends meet. By-products from our mills have gone skyward in price, and even straw for bedding purposes sells for almost as much as hay did a few years ago. The present price of hay and straw is largely due to short crops the past two years. But we must admit that hay and straw are acquiring the habit of being high in price. Cheap corn and cheap hay outside of a time of panic or industrial depression are largely a thing of the past.

Add to the above the increased cost of labor, and you have a combination of difficulties that have caused many an experienced cattle feeder to seriously consider getting out of business. That many have so decided is apparent. That many young men are deterred from entering the business for the same reasons is also apparent.

Beef production in Iowa is going through a transitional stage, due primarily to the increase in the price of land and labor. Illinois has had a similar experience, and a great many of the Illinois farmers decided the question by going out of the stock business. Iowa will almost certainly follow in the same course. There is a strong temptation to cash in fifty cent corn at the elevator rather than take chances on converting it into beef. The old saying that a bird in the hand is worth two in the bush appeals very strongly to the average cattle feeder, especially when there is so much uncertainty as to the price he will receive for his product at selling time.

In addition to the above, many farmers are renting their land and moving to town. The renter prefers grain farming to stock farming. Such are conditions as I have found them. I trust that you will not infer that I am pessimistic concerning the cattle feeding situation. On the other hand, it seems to me that the future of beef production in Iowa is particularly bright for those who make a careful study of the business. The fact that many are dropping out makes it all the better for those who remain in. During the past ten years our population has increased twenty-one per cent, while our beef-producing animals have dropped nearly seven per cent. This decrease is further emphasized when we consider that cattle are marketed at a younger age and consequently at a lighter weight than ten years ago. Dairy cattle and hogs have increased to some extent, which offsets in a measure the decrease in beef cattle. However, figuring any way we like, we find our population rapidly increasing and meat-producing animals increasing very little, if not actually decreasing. The American people will have to reduce their meat diet considerably, and they will also be obliged to pay higher prices for it. The era of cheap meat is past.

So long as the American people continue to eat beef, Iowa will be the center of the most extensive beef-producing section in the United States, because we have the raw material from whence the finished product will be made. We have feed in abundance that is good for little except to convert into beef, mutton or milk. Enormous quantities of feed goes to waste in Iowa every year, that will some day be turned to good account in producing beef. The problem of properly utilizing this cheap feed will have more to do with reducing the cost of producing beef than any other one thing.

Iowa has two main sources of feeding stock, first, to keep cows and raise calves, and second, to import from the range. Keen observers of live stock conditions are of the opinion that we must ultimately rely for the most part on home-grown stock for our feeders. For the past few years feeding steers have sold at almost prohibitive prices. Competition is extremely keen. The novice in feed lot operations has little business buying feeding cattle in the open market. Only the skillful buyer and seller has been able to make it profitable.

I think it is quite generally agreed that we must look more and more to the Iowa cow for our source of feeders. Such being the case, it is well to consider what type of animal this Iowa cow will be, and what sort of calves will she produce? Will she be special purpose, dual purpose, or no purpose? And here again will arise that old-time question of whether or not a man can keep the cow for the calf she will produce. Right along this line I wish to call your attention to statistics which I have gathered from 620 farms. I have also discussed this question with thousands of our best farmers in connection with our local short courses and their verbal replies have entirely corroborated the following figures:

Average number of cows bred per farm	13½
Average number of calves raised per farm	10½
Average number of calves lost per farm	1¼
Per cent of cows actually raising calves	77

You will note that the average farmer keeps four cows for every three calves that he raises. Will the average Iowa farmer be obliged to milk his cows in order to make a profit?

Yes	66 per cent
Not if cows are pure bred	14 per cent
No	9 per cent
No reply	11 per cent

It is evident that the Iowa farmer does not believe that he can keep the cow for the increase of the calf alone. As our land grows higher in price this belief will grow stronger rather than weaker.

The investigations which I have made along the above lines lead me to the following conclusions concerning the future source of feeding steers in Iowa: There will be the farmer on the small farm, who has plenty of labor, and who, wishing to make his land produce as much as possible, will keep special purpose dairy cows. Then there will be the farmers on large farms who have many acres of land to look after who will keep special purpose beef cows. We may call dairying intensive farming and beef production extensive farming. Of course these two extremes will not be governed entirely by the size of the farm, and we will find dairymen on large farms and beef producers on small farms. But on the whole, owing to the labor problem, which makes dairying on large farms difficult, the above division will be in general correct. In between these two extremes we will find a large class of general farmers who will raise live stock primarily for the purpose of converting their rough feed and unsalable feed into profitable beef, mutton and milk. They will have no special purpose in raising cattle other than that of making profitable returns out of that which would otherwise go to waste. I do not wish to infer that these farmers, who do not raise special purpose cattle are by any means an inferior class of farmers; they are prosperous and keep their places in good condition; but I do say that they will have no special purpose in raising cattle other than that of making profitable returns out of rough and unsalable feed that would otherwise go to waste.

It is from this general class of farmers that we will draw the great majority of our feeding steers. These farmers will keep cows that pay their way, or at least a part of the way, at the pail. These cows can scarcely be of the extreme dumpling type, but will be of large capacity, broad across the hooks, and deep bodied, in order that they may make use of the roughage and waste of the farms, to the best possible advantage.

These views may not agree with yours. If so, kindly remember that I am not presenting an ideal system. I have merely stated what observation leads me to believe are the facts. I am greatly interested in the wonderful progress dairying is making in this state, and have given a great deal of time and attention to it during the past few years. I am also greatly interested in the strictly beef cow, but the indications are that the majority of our future feeding steers will be produced by the farmers who keep from five to fifteen cows, and who will expect these cows to give a good account of themselves at the pail.

The question of fattening cattle on concentrated feed has been so ably discussed at your annual meetings on so many occasions that I do not care to discuss it here. I believe, however, that we have neglected a most important phase of this problem of producing beef, espeiially as regards the man who raises the calves and grows them until they are ready for the feed lot. And since most of us are agreed that the responsibility of producing feeding steers will for the most part fall upon the average farmer, it is to him especially that I wish to speak.

The high price of corn and other concentrates clearly indicates that the successful beef producer of the future must make a larger utilization of cheap feeds. The man who wins will be the one who studies how he can increase the yield of his acres and also how he can utilize what the farm produces in the best possible manner. Hide-bound pastures, corn stalks, bleaching in the field, straw and hay piled up instead of stacked, and manure leached and wasted, all bear silent testimony to important points overlooked in producing cheap beef.

Iowa is known far and wide as a corn-producing state, but just the same we have more acres of pasture than we have of corn. Very little attention has been given to the improvement of pastures, and yet the improvement of pastures will have a greater immediate effect upon reducing the cost of producing beef than any other one thing. Under present conditions the pasture is the last place to receive attention. It scarcely ever receives a coating of manure, it is usually overstocked, and is almost always pastured too early in the spring and too late in the fall. The result is that the grass becomes weakened or hide-bound, and of course falls an easy prey to weeds.

The remedy is to allow some grass to grow in the fall to afford winter protection, to keep the cattle off in the spring until the sod is well formed, to disk or drill in a mixture of red clover, alsike clover and perhaps a little alfalfa and timothy when the sod needs thickening, and to give a thin coating of manure every few years. By following the above method, our pastures can be made to produce much more than they do at present, and the cost of beef produced would be correspondingly.

It is a dertiment both to cattle and pasture to allow cattle to tramp over pastures in early spring. Under average farm conditions the months of March, April and May are the hardest months of the year to keep stock cattle thriving. At this time the dry feed is distasteful and the cattle consume it under protest. They are continually on the lookout for green feed, and are usually turned on grass as soon as they can get a nibble. As a result, the grass is eaten close, the roots fail to develop, and when the hot spell comes on there is little protection, and the pasture becomes weedy and hide-bound. The best way to tide over this period is to feed silage, and the average producer of beef cattle will derive more benefit from silage during March, April and May than any other season of the year. He should always keep enough silage on hand to have an abundant supply at this time. By so doing he can keep his cattle off of the pasture unitl the watery stage of the grass is past, and then can turn his cattle on grass without scouring or shrinkage.

The past two years have forcibly called our attention to another period when the pasture needs help, and that is during the latter part of July and August, or during the dry, hot period of summer. Cheap beef production demands that some provision be made for this period. The summer silo, or some forage crop such as sweet corn, fed at this time will keep cattle thriving and at the same time give the pasture a lift over a hard place.

Beef production in Iowa demands that greater care and attention be given to home-grown protein in the form of red clover, alsike clover and alfalfa. We ought to get two good crops of red clover instead of one, and could ordinarily if the red clover was cut at the right time, or when about one-third of the blossoms are beginning to turn brown. If cut at this time, the new growth springs up fresh and vigorous, and a second crop is generally assured. Alsike clover should be sown in low, wet places in both pastures and meadows. It will grow in places too wet for either alfalfa or red clover. Alfalfa should be grown wherever possible. In this connection, it is gratifying to note that alfalfa is more extensively grown and more successfully grown every year. The farmer in the corn belt who can grow alfalfa successfully will have little trouble in producing beef profitably.

The silo will certainly become an important factor in cheap beef production. As already stated, some sort of green feed is almost indispensable during the spring months. Silage fills this need in the cheapest and most efficient manner. Silage, however, is proving itself to be an excellent feed all through the winter months, both for stock cattle and for fattening cattle.

The waste of corn fodder in Iowa is enormous. Thousands of farmers refuse to cut corn fodder in the fall, and are forced to buy hay in the spring. Corn fodder, properly combined with other feeds, is almost as valuable as timothy hay in producing beef. A ration of clover or alfalfa hay, silage and corn fodder will keep beef cattle thriving at a minimum of expense.

As the manufacturer of today makes his profit out of what was wasted a few years ago, so the beef producer of today must figure on making profit on what has hitherto been wasted. He must study the problem of increased production, of properly combining feeds, of saving the wastes, and of properly caring for the manure. Take the question of straw, for instance. Much of the straw in Iowa is not even decently stacked, and much of the straw that is stacked is spoiled by snow and rain during the winter. It will pay any stock producer to build a cover for his straw stacks in order that he may save his straw and have sufficient bedding to keep his stock comfortable and retain the liquid manure.

And now I come to an important factor in beef production, and one which will become more important in the future than it has in the past, and that is the saving of the manure. Few of us appreciate the value of manure. The beef producer of today can not afford to lose any of this important by-product of the feed lot.

The value of barnyard manure is strikingly shown in Circular 54, issued by Director Thorne, of the Ohio Experiment Station. This experiment covered a period of nine years, corn, wheat and clover being grown in a three-year rotation. The manure was applied to the corn crop at the rate of eight tons per acre, wheat and clover following without further manuring. Figuring corn at 40 cents a bushel and stover at $3 per ton, the average yearly increase in the corn crop amounted to $7. Figuring wheat at 80 cents per bushel and straw at $2 per ton, the average yearly increase in wheat amounted to $7.58. Figuring clover at $8 per ton, the average yearly increase amounted to $2.74. Adding these together, we find that eight tons of barnyard manure increased the crops grown in the land $17.32, or $2.17 per ton of manure. Manure kept under cover produced the same time $23.61 for eight tons, or $2.95 per ton. The value of manure as a by-product of the stock-producing business is becoming increasingly important.

To sum up the discussion on growing beef-producing animals:

1. Increase the producing power of the pasture.
2. Grow the necessary portion in the shape of clover and alfalfa.
3. Utilize what is now wasted by putting up silage, cutting corn fodder and taking care of straw.
4. Take care of the manure.

I do wish to say something concerning the length of the feeding period Unless a man has good to choice feeders, it will not pay him to make a a long feed. The so-called "corn-crib cross" will not make a prime carcass out of a plain steer. The feeder who tries to make plain bred cattle good by a long feeding period gets poorer instead of richer. With the average grade of cattle and with the average feeder, a 90 to 130-day feed, and oftentimes even shorter than this, is best. It is often profitable to sort out the tops and feed them for a longer period, but it is not a good practice to sell the good cattle and feed the scrubs longer in the vain hope of making them good. With the exception of those who feed good to choice steers, the feeders throughout the state who have stuck consistently by the short to medium period of feeding have made the most money. One of the most common mistakes made by beginners is to try to make inferior cattle good by a long feed.

The time to market is a question which every feeder must decide for himself, and which depends, as already stated, largely upon the grade of stock he is feeding. Holding for higher markets does not pay in the long run. The grain grower can dictate very largely what he will receive for the product of his labors. If the price is not forthcoming, he stores his grain in the elevator and waits. Not so with the stock producer. When his stock are fat, he must sell or feed at a loss, and he must sell at the other fellow's price. A few extra cattle on the Chicago market puts values on the toboggan. The juggling of the live stock market up and down, back and forth, from 10 to 50 cents and more a hundred, has discouraged many beef producers. When the most astute, experienced feeder has such great difficulty in foretelling market conditions, it is a hazardous undertaking, indeed, for the beginner.

It is easy to diagnose the case, but difficult to present a remedy. Cooperative packing plants will probably help solve the riddle in time. We should at least have packing plants closer to home. Iowa, the great stock producing state in the Union, ships most of her stock to other states to be butchered, and by so doing she not only pays toll to the railroads, but also robs herself of an important industry. If the meat-producing animals that are raised in Iowa could be slaughtered here, it would provide labor for thousands of families, build up home industries, increase the price of land, lower the cost of the finished product to the consumer, and make a market for our surplus produce. Some day this present period will be cited as an example of needless extravagance, when farmers shipped their live stock 200 to 400 miles to have it butchered, incurring thereby added expenses due to shipping and to shrinkage. Not only are our fattened stock shipped out of the state, but a large number of our feeders are shipped back into the state over the same route. Thousands of feeding cattle are picked up on the farms of Iowa, given a round-trip ticket to Chicago, with feed bills and commission added, and then fed out to some Iowa farm. Feeding cattle go through this state to Chicago by the train-load, and are then gathered up and shipped back to Iowa.

Such a system is not economic, and the present cattle feeding situation demands that some change be made. Calves grown in Iowa should be fattened in Iowa without any intervening car ride. The remedy lies in co-operation, organization and education. The Corn Belt Meat Producers' Association has accomplished much, but your association includes for the most part only the larger feeders. In your endeavor to secure better condition you should have the active support of all. Therefore, the members of this association should be actively interested in the organization of farmers' clubs, granges, community breeders' associations, test association, live stock associations, and other agricultural societies. Once established, the farmer organizations will begin the study of economic production and distribution. They will quickly see the fallacy of shipping a stock steer to Chicago, with the attendant loss due to shrinkage, carfare, and commission fees, when the same steer is needed on a near-by farm. Once seeing this need, distributing points will be established in every county. The men who have stock steers for sale will send a letter to this distributing point, telling what he has for sale, and the man desiring stock will make inquiries at the same place. Thus the feeder and the producer will be brought together, to the financial advantage of each, and to the ultimate benefit of the consumer.

The problem of distributing feeding stuff once solved, the farm organizations can turn their attention to the fattened product. They will ask themselves: "Why all this needless expense and shrinkage due to shipping fat animals long distances? Why ship the dressed meat back into Iowa for the Iowa consumer? Why not kill and dress the meat at home, and thereby build up manufacturing centers in Iowa? The people employed in these centers will become the consumers of our surplus products, and laborer and farmer, consumer and producer, will be benefited. The present system is manifestly uneconomic and can not stand the test of time.

The organization of farmers is slow, hard work. In order to be successful, it needs the active support of all who are really interested in improving agricultural conditions. It invites every one of you to get your coats off, roll up your sleeves, and go to work. Somebody says this method takes too much time. When you wish to raise a crop of corn, you first prepare the seed bed thoroughly, even if it does take extra time. The seed bed in this case is the farmers. The way to prepare this seed bed is organize; it matters not so much what the organization is, whether club, grange, breeders' association, test association, or whatever, just so it brings the farmers together. Once together, we can bring about changes in the beef producing situation in Iowa that will be of the utmost importance to the future advancement of the industry.

In conclusion, let me say that the cattle feeding situation in Iowa demands that greater care be given to the utilization in beef production of feedstuffs that now go to waste; to growing home grown protein in the form of clover and alfalfa; to the care of that important by-product of the feed lot, manure; to a more economic method of bunching stock and feeding cattle, and finally, the most important of all, to the organization of farmers.

Professor F. T. King, of the Indiana Experiment Station addressed the convention on "Silage for Beef Cattle."

SILAGE FOR FATTENING CATTLE.

PROF. F. T. KING, LAFAYETTE, IND.

Mr. Chairman, members of the Corn Belt Meat Producers' Association, it affords me great pleasure as a representative of Purdue Experiment Station to present to this organization of stockmen some of the things in regard to meat production that have passed entirely from the uncertain realm of theory and speculation to the solid ground of established facts. The Purdue Experiment Station has for several years been using corn silage for fattening steers with such good results that we are coming to look upon the matter as practically settled, with only methods of feeding remaining to be investigated. It is principally of the results we have secured I shall speak of today.

The time is past when the producer of beef on high-priced land can afford to be without a silo. It has long been known that a very large per cent of the feeding value of corn as shown by chemical composition is found in the stalk. Stockmen, however, have been unable to get more than a small per cent of the feeding value of the roughage produced by the corn plant. Within recent years the beef cattlemen have begun adopting a method employed by farmers of Europe for several hundreds of years and by dairymen of this country for scores of years. In fact, the method is so old that it is a source of wonder that there is a stock farm to be found in America where it is not employed. This method consits in confining in an air-tight chamber feed cut while green enough to contain a large per cent of water. The form of enclosure has passed through a period of evolution, and finally settled into the modern silo with circular, air-tight walls. When corn in about the proper stage for shocking is cut into pieces one-fourth to three-fourths of an inch long and packed in the silo, a process of fermentation takes place that causes some chemical changes in the mass of feed. This fermentation is accompanied by a softening of the woody portions of the corn plant, with the result that a soft, palatable food relished by live stock of all kinds is formed. Silage is so relished by cattle that forty pounds and even fifty pounds are often consumed by two-year-old cattle during the early part of the feeding period. It is a food of much the same nature as grass, and affects the cattle in much the same way. In fact, the same results that can be expected in summer from good blue grass pasture can be secured in winter by the use of corn silage, and can be produced from about one-third the land.

It has been recently said by a very prominent authority on agricultural topics in the corn belt that a revolution in cattle feeding was to take place with the erection of silos in all the cattle feeding yards of the country. This revolution is now rapidly taking place. Probably no previous year has seen the erection of as many silos as has the year of 1911. Very few progressive farmers have not heard or read of the great benefits to be derived from the silo, but many have hesitated about investing in one.

The fact, however, that of the hundreds of feeders who use silage for fattening cattle, practically none fail to speak in most gratifying terms of their appreciation of its value, should be excellent proof of the economy of the silo for beef cattle.

There are two distinct advantages to feeding corn silage to fattening cattle. First, there is the conservation of the rough feed produced by the corn plant, and, second, there is a larger profit from the feeding operation.

In the production of corn, there must necessarily be produced large quantities of stalks. Chemical analysis shows that approximately two-thirds as much feeding value is locked up in the stalk as is contained in the ear. The food nutrients of the stalk, however, are so locked with fiber that when fed as corn stover or fodder, only a small percentage or their real value is secured. Because the food nutrients of corn stalks are so unavailable for animals, the roughage produced by the corn plant commands on the market a price altogether too small for the soil fertility removed by its sale. Therefore, on account of its chemical content and its abundance on the farm, the more thorough utilization of the roughage from the corn plant must be realized.

One of the great secrets of success in large factories has been the elimination of proper utilization of all waste. This is now one of the great problems for the successful farmer. The roughage of the farm must be utilized. Corn silage offers the greatest source of improvement with which we are now familiar. When harvested in the ordinary manner, not only is a large part of the food nutrients not available, but the woody portions of the plant are unpalatable, and even when eaten require so much energy in digestion that a large part of their value is lost. When cut early and put into the silo, the entire mass passes through a process of heating and fermenting that reduces the hard, woody portions of the plant to a soft, palatable food which is readily eaten by cattle, horses or sheep. Silage properly made is completely consumed, with practically no waste. Corn put into the silo returns the feeder its full value without waste. Not only is there a complete consumption of the plant, but the animals are treated to a feed in winter that is succulent and palatable, with all the thrift-giving properties of good summer pasture.

The economic side of the question is, however, the most important one from the standpoint of the cattle feeder. The ration we used must be the one that will return the greatest profit. My presentation of this phase of the subject is based on the results at Purdue Experiment Station, and in no case are any conclusions drawn from less than two trials on that particular item, and in most cases three or four trials have been made.

The general effect of adding corn silage to a ration for fattening beef cattle is shown by the following table:

	Clover hay	Silage once daily, clover	Silage twice daily, clover	Silage
Daily feed—				
Shelled corn, lbs.	18.10	16.80	14.41	14.15
Cottonseed meal, lbs.	2.74	2.83	2.79	2.74
Clover hay, lbs.	11.39	6.75	4.47	
Corn silage, lbs.		17.35	29.38	32.92
Average daily gain, lbs.	2.36	2.58	2.56	2.35
Cost per hundredweight gain	$10.35	$9.29	$9.14	$8.96
Profit per steer, including pork	9.00	12 70	15.63	11.54
Additional profit due to silage		3.70	6.63	2.54

In all rations, shelled corn was fed according to the appetites of the cattle. In addition to the corn, cottonseed meal containing forty-one per cent protein was fed in the proportion of two and one-half pounds daily per 1,000 pounds live weight of cattle. All lots of cattle were uniform as to size, quality, age, and condition when the experiment began, and were treated exactly the same except that the roughage offered was different.

The figures in the table are average of two years' work. They are the results secured in the winter of 1909-10, which was a very profitable year, and those secured in the winter of 1910-11, which was a very unsatisfactory year to feed cattle. Corn was worth 54 cents in one case and 37.4 cents in the other; clover hay was worth $10 per ton, cottonseed meal $28 and $30 per ton, and corn silage $3 and $3.50 per ton.

The first noticeable effect of the silage was on the appetites of the cattle. It will be noted that the amounts of both hay and grain were reduced by the addition of silage. The grain in the silage evidently replaced approximately the same quantity of dry corn in the ration, thereby decreasing the quantity of dry grain consumed by cattle on full feed. This fact, when considered with the rate of gain, is sufficient to successfully contradict any opinion that the corn put into silage is not as valuable as when gathered.

The rate of gain was increased by the addition of the silage to the ration and not greatly affected by the substitution of silage for clover. Since silage is a cheap roughage and the grain consumption was less when silage was fed, the cost of gain was greatly reduced by the addition of silage to the ration. When silage was fed once daily in connection with clover hay, there was an average reduction in cost per hundred pounds gain of $1.06; when silage was fed twice daily with clover hay, the reduction in cost amounted to $1.21 per hundred pounds gain, and when corn silage was the only roughage eaten by the cattle, the cost of gains was reduced $1.39 per hundred pounds. It will be noted that the more nearly the corn silage replaced the clover hay in the ration, the greater was the reduction in the cost of gain, the greatest saving in cost being when no clover hay was fed.

When cost of gain is the basis of comparison, the conclusion would be drawn that the more nearly silage replaced hay in the ration, the greater would be the profit. This is true when a small amount of clover is fed, but not so when silage alone is used as roughage. The profit per steer was increased $3.70 by adding silage once daily to clover for roughage; $6.63 by adding silage twice daily; and $2.54 by substitution of silage for clover. The reason the profit per steer is not in the same proportion as the saving in cost of gain is that there was a difference in the finish of the cattle. The selling price was not appreciably affected by adding silage once daily while it was increased an average of 15 cents per hundred by the addition of silage twice daily, and reduced 10 cents per hundred by substitution of silage for clover. With these figures as a basis of comparison there would be a saving by the use of corn silage on a carload of twenty steers of $74, $132.60 and $50.80, according to the extent to which silage replaced clover as a roughage.

Because corn silage has proven so profitable for fattening cattle, its limitations must not be overlooked. It must be remembered that silage is a roughage and not a grain. Because some corn is contained in silage, the mistake is sometimes made of trying to use it for grain instead of roughage. This practice always results unsatisfactorily. Silage is a roughage and must be so considered. Ordinarily it is not necessary to limit the roughage consumed by fattening cattle. The steer will naturally consume more grain and less roughage as the fattening period advances. Sometimes, however, it is necessary when silage is very palatable to arbitrarily limit the quantity of silage consumed by the cattle in order to induce sufficient grain consumption to insure satisfactory gains. In fact, the greatest benefit from silage in the ration is much more marked during the early part of the fattening period, when roughage comprises a larger proportion of the ration, than later in the fattening process.

Another limitation of corn silage is that it is not a balanced ration. It is of somewhat the same nutritive ratio as the corn grain. Therefore when corn silage replaces clover hay, which balances corn, some form of concentrated protein must be added to make a properly balanced ration. The effect of adding corn silage to the ration of corn and clover without cottonseed meal is shown by the following data secured in two trials on the question made at Purdue:

	Corn and clover	Corn, clover and silage	Corn and clover	Corn, clover and silage
Daily gain, lbs.	2.01	1.85	1.90	1.80
Cost per hundredweight gain	$10.29	$9.80	$10.89	$11.07
Selling value of cattle	5.45	5.30	5.95	6.00

It will be noted that the rate of gain was actually decreased and the cost per hundred pounds gain and selling value of the cattle not greatly affected by the addition of corn silage to a ration of corn and clover hay. This data from Purdue is also borne out by experiments at other stations and by individual cattle feeders.

If the best results are to be secured with corn silage, some nitrogenous concentrate must be fed. Since cottonseed meal seems to be as plentiful and as cheap for its worth as any, we have been using it in our experiments. The effect of adding cottonseed meal in the proportion of two and one-half pounds daily per 1,000 pounds live weight of cattle, to a ration of corn, clover hay and corn silage, is shown by the following table:

	Shelled corn, cottonseed meal and silage	Shelled corn, clover hay and silage	Shelled corn, cottonseed meal and silage	Shelled corn, clover hay and silage
Initial value	$4.25	$4.25	$4.00	$4.00
Initial weight, lbs.	1,010	1,014	1,123	1,125
Average daily gain, lbs.	2.57	1.85	2.70	1.80
Cost per hundredweight gain	$8.74	$9.80	$9.11	$11.07
Necessary selling price	5.66	5.65	5.35	5.37
Actual value	5.60	5.30	6.25	6.00

It will be noted that by the addition of cottonseed meal to the ration the daily gain was increased in the first case from 1.85 pounds to 2.57 pounds, and in the second case from 1.80 pounds to 2.70 pounds, at a reduction in cost per hundred pounds gain of $1.06 in the first trial and $1.96 in the second. The selling value of the cattle was increased by the use of cottonseed meal 30 cents and 25 cents per hundredweight.

Since the necessary selling price was practically the same in either case, the excess in selling price due to the addition of the nitrogenous concentrate represents practically clear profit. Therefore, in order to secure the greatest benefits from corn silage, some form of protein must be added to the ration.

In conclusion, therefore, let me again call attention to the facts that, first, when properly supplemented with a nitrogenous concentrate, the addition of corn silage to a ration of corn and clover hay has returned a profit amounting in one ration to $6.63 for the average of two years' trials. And that in no case was there a smaller profit than $2.54 per steer by the addition of the silage. Second, the more nearly the silage replaced the hay in the ration, the greater was the reduction in the cost of gain, but when no clover hay was fed there was a decrease in the selling price. Third, the addition of corn silage to a ration of corn and clover hay not properly supplemented does not greatly affect the profits. Fourth, the best results can not be secured from feeding corn silage to fattening steers unless the ration is properly balanced by a nitrogenous concentrate.

Mr. Meyers: I have fed guaranteed 41 per cent cottonseed meal for several years, but my steers say there is a difference in the meal. Is there any way in which the difference can be told by the naked eye?

Professor King: I like the cottonseed meal to be a light yellow rather than a reddish tint, because the red sometimes indicates old meal. Whenever the color is a brick red, the cattle usually do not like it. We have never had any particular trouble with it whenever we got it a light yellow. Of course it usually takes our cattle from two to five days to learn to like it.

H. C. Wallace: How much cottonseed meal do you start them on?

Professor King: A quarter to half a pound. We have only ten steers in a lot; if a man had a hundred steers in a lot, it might be there would be one-half or two-thirds of them that wouldn't get that much. I wouldn't recommend starting in big lots on more than a quarter of a pound, but whenever you run ten to twenty steers in a lot, I wouldn't be afraid to start them on half a pound a day.

Mr. Ames: I believe I can help the gentleman out on his difficulty with that meal. We have had a little trouble that way. I found on investigation that in the mills the seeds are ofttimes stored, as in a silo, and they sweat and heat, and when that heated seed is ground it makes a meal that the cattle don't like. If you can get the fresh, bright, nut-brown meal, like our old-fashioned brown sugar, you can taste it yourself, and it is just as sweet as the brown sugar would be.

I would like to ask Professor King another question: What profit do you calculate a feeder can have between the purchase and selling price of a drove of feeding steers at the present price of feeding, using cottonseed meal, corn and ensilage?

Professor King: A thousand-pound steer at $5 a hundred (that would be pretty plain cattle) would cost $50. Upon our best cost per hundred pounds gain, $9.14 (we will figure $9.25 per hundred), if it puts on four hundred pounds gain, that fourteen hundred pound steer would have to sell for about $6.70 per hundred from the time he got in the lot to the time you sent him back.

Mr. Ames: You haven't taken into consideration such things as interest, insurance, etc.

Professor King: Of course you understand that side of the question, but that is something that I can't answer.

H. C. Wallace: Let me make a remark here. In our case before the State Railroad Commission on this minimum weight case, the railroad attorneys tried to make the commission believe that all of our stock feeders were getting rich. We summarized a large number of experiments which had been published, including these Indiana experiments, and made calculations, taking into consideration the interest, insurance, and all the elements that enter into this matter, and introduced them in evidence in this case a couple of weeks ago. Our testimony before the commission showed that on a margin of $1.50 between the buying and selling price, the feeder was losing money under conditions this year. We had some difficulty in making some of the railroad attorneys believe that, but I think we convinced the commission that that was correct. We argued that $2 difference was necessary for the feeder to come out fairly.

Mr. Murray: Have you made any test on the question of the comparative values of linseed meal and cottonseed meal?

Professor King: We have not. I was at the Missouri station for a while, and there we fed about fifty or sixty bunches of cattle on blue grass pasture and made comparison between cottonseed meal and linseed oil meal. We found that when cattle are twenty months of age or over there is not a great deal of difference, pound for pound, between linseed meal and cottonseed meal, but when the cattle are younger than eighteen or twenty months the linseed meal is worth a little bit more, pound for pound, because it doesn't have any poisonous properties at all; and on our results we figured that if there is not more than $4 a ton difference in the cost of the two, we should feed the linseed oil meal if the cattle are younger than eighteen months.

Mr. Murray: I was speaking of dry feed.

Professor King: I wouldn't venture, except on the basis of the grass results, because we have made no direct comparison with dry feed.

A Member: How about the effect on hogs of the cottonseed meal in the droppings?

Professor King: I know of one or two men in our state who reported that their hogs did not do well when they fed cottonseed meal. After the cottonseed meal has passed through the cattle it has lost practically all its poisonous effects. Of course if it is fed in very large quantities it might cause trouble, but under ordinary circumstances if it doesn't leak through the trough there will be no difficulty.

Mr. Crofoot: What condition should the corn be in for filling the silo, green or pretty dry?

Professor King: We like to have it as dry as possible, to keep well. This year I don't believe there was one blade in a dozen but what was dry, and I opened quite a number of the ears, and there were not more than three or four grains on the average that were not fully dented. That is a little bit drier than I like to have it; if I had it to do again, I would put water in.

President Sykes announced the following committees:

Resolutions—Ralph Sherman, George C. White, W. J. Reed, Henry Brady, R. M. Gunn, R. Warburton, D. W. Anglum, J. A. White, C. B. Snyder, J. C. Wyckoff, Warren Nicholas, C. J. C. Cold.

Memorial—A. L. Ames, S. M. Corrie, F. T. Swearingen.

President Sykes then introduced "Uncle" Henry Wallace, editor of Wallace's Farmer, who addressed the convention as follows:

ADDRESS.

HON. HENRY WALLACE, DES MOINES, IOWA.

Mr. President and Gentlemen of the Association: Verily it is good to be here. I have known this association from its beginning. I have known its aims, its motives, and its sacrifices. As I have been listening to the discussions this afternoon, it seems to me you are now getting down to brass tacks. This association has been a power for good in Iowa in more ways than I can tell you—more ways, perhaps, than you know. It has formed a bond of union between the breeders and feeders of beef cattle. It is the beginning of a bond of union that should take in, as one of the presiding speakers has said, every man who grows corn in the state of Iowa. You gentlemen furnish the market for a large part of the corn and the large part of the forage; therefore, the corn growers should look upon you as a friend and a brother. You have done a great deal, besides, in the way of reducing rates, in securing justice, in causing officials to respect not merely the Iowa meat producer, but the Iowa farmer. You have done much to put the name of Iowa away up. The men from the east who have visited me recently are surprised at the number of men from Iowa who are doing big things in the east in matters political, industrial and commercial, and they have asked me how it comes that we grow such big men in this country. I tell them that a country that can grow big horses and big cattle can grow big men.

Now, although you have done a great deal, you have not succeeded in all your undertakings; you have failed in your cooperative movement. And why? Because you didn't trust each other. And why didn't you trust each other? Because you didn't know each other. It is knowledge that begets confidence, and it is a great calamity that you failed in that respect. You will do better by and by; you will get to know each other better; you will stand by each other better; and when you stand by each other and get the confidence of the people who sell you corn and cattle, you will be a power, not merely in this state, but in the nation for good.

Now, I am deeply interested in this live stock business, whether it be dairying, cow raising, horse raising, or mutton growing, because upon its prosperity and permanence depends the salvation of this state. Iowa farmers are now looked upon as away up, because they are big enough to milk cows and feed cattle. The permanence of the fertility of this state depends largely upon the stock business. Do you know that we took in in the first half century millions of acres of virgin land that needed neither spade nor tilling, and yet with all that for forty years our yield per acre of grain fell regularly. What does that mean? It means that we have lost in fertility more than we took in. There are no more new acres to be taken in, and the question that we must solve now is, how to bring up the fertility of our land. It can be done without live stock raising, but it can be done easier with that than in any other way. Hence I say that upon the permanence of the live stock business depends the permanent welfare, the permanent prosperity, the permanent greatness of Iowa.

Now, we have heard a great deal about the high price of cattle and corn. Why gentlemen, that is here to stay. You will never see cheap cattle and cheap corn again for any length of time. The whole world complains about the high cost of living the whole world will continue to complain for an indefinite period. Why? Do you know that from 1870 to 1900 we took in the greatest body of land upon which the sun shines? We put it under cultivation almost in a night. We hastened the opening up of it by the homestead laws—a subsidy to agriculture, and, like all other subsidies, a damage in the end. We further stimulated the opening by giving away a lot of land to the railroads. What was the result? From 1870, after the waste of the war had been repaired, until 1900, we fed the world at half price. We built up great cities all over the world; we changed the whole face of civilization, because we were furnishing men food at half the cost. To put it in another way, we mined the fertility of our soil and sold it at the cost of mining, and now we are buying back the fertility and paying a big price for it with commissions and freights. And so this high cost of living is normal; that is all.

Just think, now, for a moment, what would have happened to this country if this whole prairie country had been timber, so that it took the whole life of a man to clear up a quarter section? Prices would have gone just as they were before, before Illinois was opened up. We began to feel the low prices in Illinois in the '60's. When I first came to Monmouth, old corn was selling at 10 cents and new corn at 8 cents. Then the war came on, and it took us ten years to make up the waste of the war. Then in this country west of the Mississippi, from 1870 to 1900, we grew more corn than all the United States had grown before. We slushed the world with cheap food at half the cost of its production, if we count anything on fertility. We knocked the price of wheat down at Liverpool 50 cents a bushel; in other words, we sold them the wheat at 50 cents less than it was worth. Now we are getting back to normal things. The cities must go through in the next twenty-five years just what the farmers went through from 1870 to 1900, and it is a good thing that the Argentine is opened up, and that reciprocity was defeated—the biggest fool thing that the Cannadians ever did. And why? Down at the bottom, because Canadian manufacturers wanted to make a New England out of Ontario and get cheap food. So they appealed to the patriotism of those people, just as our men with the same cause would have appealed to our patriotism from 1870 onward.

Under these circumstances we must begin to farm. We haven't begun yet, except a man or two now and then, like those I am talking to now. In the first place, we must have a rotation of crops. Then we must go into some kind of live stock raising. As far as my observation goes, it takes two acres of pasture to keep a thousand-pound steer. We must get that down to one. You must learn to cultivate the pasture. Never let clover get out of a blue grass pasture; if it gets out, put it in again. Get your disc out in the spring of the year, when the frost is coming out, and disc in your clover. You must feed silage to your cattle until the clover begins to bloom. I was raised to that when a boy. My father knew that he must not feed clover until it got to that period.

I approve of everything that has been said this afternoon; in fact, I have been trying to say most of it for about twenty-five years. I am glad to see those men from the experiment stations furnishing proof that it is true.

Man is greater than all his works. You must improve the type of man before you can make much improvement in the type of live stock or in farming. Therefore, you must get together; you must co-operate; and you can't cooperate until you get to know each other and see what bully, good fellows you are when you know each other and see the best side of each other. Then, too, you must make life so pleasant on the farms that your boys will not be fools enough to run away—except some of them that aren't fit to be farmers anyhow, and you can send them to town to become doctors and preachers. You must make every township an industrial and social center, not by bringing out to the country the amusements of the town, but by the amusements that belong to the country and grow out of the hearts of the people. That is what you want, and when you get that, your boys will see the wisdom of staying right on the farm; and if the boys see it, the girls will stay with the boys.

Now, gentlemen, I have no speech to make to you; in fact, I was told that I didn't need to make one—only come here and say a few nice words; and I have done that.

F. T. Swearingen: How about shipping our live stock to Chicago and buying it back as dressed meat.

Mr. Wallace: That is simply because you are not big enough to do it at home. The Denmark farmer, who was as bad off forty years ago as you are, packs his own pork and finds it the highest priced pork in Europe. Even the God-forsaken Irishman is establishing his own packing house. You can't do that until you get to know each other and trust each other. It will come to that, as one of the speakers said, by and by, but it will not until you get confidence in each other, so that you can work together. We are going to have egg associations over this state, so that the people in the cities will know the taste of fresh eggs, and those eggs will be worth five cents a dozen more than the average. There is no telling what we will do when we once get together. I don't blame the people for being separate up to this date, because the circumstances of the time have developed individualism in us—necessarily so. The man who came to the prairies came as a stranger; he had to depend upon himself, and he did his own thinking and did just as he pleased. So he has learned that he is sufficient for all things; that is his idea; and it was necessary at one time. But now the time has come when we must get together and understand each other. This association is a great object lesson in getting together. By and by we will not send the hog to Chicago to come back to be eaten. I will tell you how to start this: Every mother's son of you pack your own pork this winter. Kansas wastes $7,000,000 a year, so her station says, in sending hogs to Kansas City and Chicago to be killed and come back to be eaten. Just learn how to pack your own pork, and make a garden for your wife and raise your own vegetables. Learn how to encourage your neighbor, and get a social center in every township, and consult with each other about this whole world of agriculture. You will get along a whole lot better if you will look a little after your school and get rid of your six-pupil schools.

A Member: We will have to go to town if we get together on that.

Mr. Wallace: That is just as a gentleman here said: when the people get a little rich they have to go to town. When the people in town get rich they come to Des Moines. When a fellow gets too big for Des Moines he goes to Chicago. When Chicago will not hold him any longer he goes to New York. Then he trades off one of his girls for a title and goes to Europe. I know just all about you. The man who goes to town first has a session with his wife. He says:

''Susan, how much did we spend last year; how much actual cash did we pay out for the house and our ordinary clothes?''

''Well,'' says Susan, ''I will figure it up in the next week.''

Saturday night she tells him it was about $200.

''Well,'' he says, ''I have been offered $4 an acre rent for the farm; do you think we could live on $600?''

''Sure,'' she replies.

''Do you want to go?''

''Sure!''

''We can educate the children and you can attend prayer meeting and the church.''

And they go; and everything is fine for a little while. But he finds that in spite of all that he can do, he is living higher than he used to in the matter of clothing and incidental expenses. He finds his children want a little more; his wife wants a little better dress; and he wants better clothes. Then he finds at the end of the year that he is a little back. He wants a half dollar an acre more rent, and he finds Scripture proof for it. ''If any man provide not for his own household, he hath denied the faith and is worse than an infidel.'' Then he gets mad, and gets out of humor at the town, because they want to tax him for street improvements, and make him put a cement sidewalk in place of the old board sidewalk; and then he takes to him two or three other disgruntled fellows like himself, and sits down and laments over the evils of the times. He eats just as much as he did before, and he gets trouble in the lowerhouse. And then he thinks he doesn't need to read any more about farming, and he stops Wallaces' Farmer, and gets into trouble with the upper house; and the statistics show that he died before his time because he ate too much and didn't have the stimulus that comes from being required to watch and study the processes of nature. His children come to Des Moines. Dozens of them here are motormen and conductors on street cars, and having the hardest kind of work to make a living; and they are obliged to shut down on more than one or two children. A poor fellow the other day was loading some flour for a farmer down at the station. The farmer asked him how much he made. "Nineteen cents an hour." "How much a month?" "Fifty dollars." "Can you live on it?" "Well I thought I could, but my wife's sister had to go to the hospital up here, and I had to board her husband for two weeks, and my grocery bill increased $5; and, honor bright, I don't see how I will ever get ahead enough to pay that; and I have no accumulation for old age."

Gentlemen, the city has nothing to offer. If you will develop the social life of the farm, and make farming a satisfactory life, you will have done much to solve the labor problem and the whole agricultural problem, and you will have laid the foundation for growing the finest thing that ever grew on an Iowa farm —a fine human being. When you figure on fine human beings— healthy boys and girls, educated with the education which the farmers can have if they will simply open their eyes to it—you will solve the chief end of man. The chief end of man is to glorify God, and the best way you can glorify Him is to be a fine human being yourself, and then bring up fine human beings as your children. That is this end of it; you will attend to the other side when you get there; and enjoy it all the better.

President Sykes: I would like to ask you how you view the future competition of the South American country in our live stock business, provided the tariff is taken off of cattle and dressed meat.

Mr. Wallace: The other day I met our old friend, Murdo Mackenzie. He told me he was going to Brazil to run a ranch for John D. Rockefeller and Pierpont Morgan. I said "I am sorry to see you go." "I'm sorry to go myself," replied he;"but they put down $50,000 a year in American gold, and I couldn't very well resist that." They have five million acres of land with San Paulo as a center. They expect to keep 500,000 head of cattle, to grow 450,000 hogs on alfalfa, to establish three packing houses; they have the railroad. When that comes, give us free meat, unless you people and the farmers of the west get together. The first thing will be (and there are already two or three bills in congress) a ship subsidy to cheapen freights. All you need to do to get a merchant marine is to allow men to buy their ships where they like. Our merchant marine is now owned largely by American people sailing the British flag, and they buy ships where they can get them and put up the flag; that is all. So you want to get your eyes open to that.

That is rather a dark view, but taken in connection with what I have said before, this competition from the Argentine, from Canada, from Brazil, will tend to let down with comparative ease the cities of the world which you have built up by working for nothing and boarding yourselves. It will tend to ease the tremendous strain that is going to come on the people all over the world. I don't think I am a pessimist, but you know in the last year there has been a revolution in Spain, martial law in Austria, bread riots in France, a strike in London, a rebellion in China; and they all came from the high cost of living, together with the cost of high living. This must be let down, but we don't want to see our ports thrown open to free meat or free corn. If it had not been that there was a failure in the Argentine in corn last year, you would have seen any amount of corn shipped into New York this year, as there was last year—freight paid, tariff paid, manufactured, and shipped to the old country at seven and one-half cents less than you can buy the corn. You must make your pastures increase better; you must feed silage—summer silage, winter silage. You must quit butting your heads against a stone wall by trying to make the cow give milk out of stuff that has no milk in it, as, for instance, timothy and corn. We never learn to walk except we fall down and bump our head. You must quit bumping against nature and feed your live stock with food convenient for it. Give them the right raw material to get the results, and in that way we will get through. We needn't be afraid of the live stock business going out; it is here to stay. The people will eat smaller pieces of meat and pay a higher price for it, as has been said; but we can make it in Iowa, Kansas and Nebraska cheaper than it can be made any place on this continent or in Europe; and if we put more brains into the question we can make it as cheap as they can any where else. Sir Joshua Reynolds was once asked how he mixed his paints. He said "With brains." That is exactly the way we must farm: with brains. We can't import new brains; we must make the best use of what we have. You will find out that you can do things that twenty years ago you said couldn't be done at all. You have the soil, the climate, some of the best people found anywhere in the world, and all you need to do is to develop;

and a meeting like this is one of the best places to develop the brains with which you have been endowed by the Almighty.

President Sykes: It has been suggested that in connection with the letter from Judge Prouty, of the Interstate Commerce Commission, which I read here, a committee of three be appointed to work out the number of days that should be given the railroads to furnish cars for shipping sheep. I will entertain a motion to the effect that the chair appoint a committee for that purpose.

D. W. Anglum: I move that the chair be authorized to appoint a committee of three for that purpose.

Motion duly seconded, submitted and carried.

President Sykes: I will appoint on that committee, J. M. Brockway, of Louisa county; E. L. Hill, of Dallas county; J. F. Morris of Sioux county. The committee can get together and be in a position to make a report tomorrow afternoon, at the business meeting of the Corn Belt Association.

Adjurnment was thereupon taken to Wednesday morning at 10 o'clock a. m.

THE BANQUET.

The third annual banquet was held Tuesday evening, with an attendance of one hundred and fifteen. Among those who responded to toasts were Judge Henderson, Commerce Counsel for Iowa; Henry Wallace, Hon. Eugene Davenport, Hon Clifford Thorne, Hon. A. L. Ames, Hon. James Brockway, Hon. A. E. Kepford, Hon. P. G. Holden, and others. Some of the best speeches of the week were made at the banquet, and it was a thoroughly enjoyable occasion.

WEDNESDAY, DECEMBER 13.

Morning Session.

President Sykes presiding.

Secretary Wallace presented his report as follows:

SECRETARY'S REPORT.

Receipts for the year		$5,544.28
Expenditures—		
President's salary	$1,800.00	
President's expenses	619.70	
Secretary's office, salary and clerk hire	1,000.00	
Directors' expense	114.38	
Expense of annual meeting	95.35	
Clifford Thorne, balance due for services rendered prior to January 1, 1911	700.00	
Witnesses' expense	40.12	
Furniture—filing case	27.90	
Tent at state fair	9.65	
Printing	372.20	
Postage	148.75	
Correction of error	2.00	4,930.05
Balance on year		$ 614.23

We had last year, as you will remember, a deficit of approximately a thousand dollars, which was due to Mr. Thorne for services he had rendered. You will note that we paid him this year $700, which pays that in full, so far as we are concerned. The other $300 is to be contributed by the Co-operative Grain Dealers' Association. They have already paid $150 of that, and a letter from their secretary last week informed me that they would pay the other $150 within two or three weeks. I may say in connection with that that when we entered an appearance in that fight to prevent the advance in rates, we took up the matter with that association and asked them to join with us. They are not quite so mobile as this association; they can't act quite so quickly; but Mr. Messerole, the secretary at that time, said that he would be personally responsible for at least $300, and he felt that his association would back him up in that, which they have done. Later, when we got farther into the case, the Grain dealers employed Mr. George C. White, whom you know—a member of our association—and he has been connected with them also, and they paid his salary entirely and sent him down to help Mr. Thorne; and during the last two months of that case Mr. White spent all his time with Mr. Thorne, went back to Washington with him, and was of great assistance in working up the matters necessary in presenting that case.

Treasurer Charles Goodenow presented his report, as follows:

TREASURER'S REPORT.

Balance on hand	$ 101.80
Received from secretary	5,544.28
	$5,646.08
Paid out on vouchers signed by president and secretary	4,603.97
Balance on hand	$1,042.11
From this balance should be deducted vouchers which have been issued by the secretary, but not yet presented to me for payment, amounting to	326.20
Leaving true balance of	$ 716.91

Of course my report can never agree exactly with Mr. Wallace's, because when the orders are issued by him they are sent to the parties, and usually are deposited in the home bank where the man does business, and they are sent around to different correspondents. Sometimes it takes as long as a week for those orders to reach me. They are just like any other draft or check; they float from one bank to another until they finally land home, and I don't get hold of them as soon as they are issued by Mr. Wallace. I think everybody understands how that is. I also carry the balance from one year to another, while he deals only with the receipts and disbursements for the year.

The report of the Auditing Committee was read by Mr. Drury as follows.

AUDITING COMMITTEE'S REPORT.

We, the committee appointed to audit the books and accounts of the secretary and treasurer of the Corn Belt Meat Producers' Association, report that we have examined the same and find them correct. Receipts and vouchers are on file for all receipts and disbursements. Our examination covers the year ending December 11, 1911.

WILL DRURY.
E. D. BAIRD.
JEROME SMITH.

Upon motion of Mr. Nicholas the reports of the Secretary, Treasurer and Auditing Committee were accepted as read.

President Sykes: Mr. Wallace has suggested that as a number of members who are here from different parts of the state are not familiar with the pledge system adopted by the board of directors of this association in 1910, it might be well for me to make a little explanation here, so that you would understand what we mean when we refer to a pledge given to this association. Following is a pledge that I have taken since coming here, from a man in a county where we have not heretofore been represented. It says:

''Believing that the work carried on by the Corn Belt Meat Producers' Association has been and will be of benefit to me and to every farmer and stockman in Iowa, I hereby agree to pay the sum of $2 in cash, and agree to pay the association a like sum each year for a period of four years; said money to be used to defray the necessary expenses of the association in carrying on its work. Payments to be made wherever the member does his banking business (at your local bank, in other words), January 1st or June 1st of each year.''

The regular constitutional dues to this association, as you all understand, are $2. It was recognized by the board of directors that $2 was not sufficient to maintain this organization, and that they would have to adopt some plan whereby they could secure more money to carry on the work, as every year the work of the association became heavier and required more money to meet the expenses of it. And so the board figured out the plan that if the grain farmers and the renters would pay the regular dues of $2 a year, and we could get the stockmen to give $5 a year, it would make it fair to each, and at the same time would provide funds enough to carry on the work. Of course that did not prevent anybody from giving $5 if he wanted to. We have a number of grain farmers who never feed any cattle who have given pledges to this association for $5 a year, because they believe it is a worthy organization and should be maintained. There is at least one man with us today who has given a pledge of $10 a year to this association. He tells me that when he called at the bank to pay his pledge, they said: ''You must think a good deal of this organization to give $10 a year to it.'' ''Why,'' he replied, ''this organization doesn't owe me anything. The fact of the business is that if I would give $25 a year to it, I wouldn't pay up what I owe it for what it has done for me." He happened to be in Chicago with a shipment of cattle when that water deal was on there, and I was there working on the change from the sewerage water to the lake water. He found out the kind of shrinks he was getting, and it convinced him that there was something to it. We have a few men scattered around over the state who have given us $10 pledges, but of course those are exceptional cases, and the bulk of our membership of the stockmen who have been solicited have, without any hesitation, pledged themselves to give $5 a year. I will say for your encouragement that in every instance where we have gone out and solicited the farmers and stockmen, we have not only gotten our membership back into line, but I think I will be safe in saying that we have practically always increased the membership over what it was under the old system.

Right in this connection I wish to say that the board passed a resolution that if this organization is built up to a point where this money is not all needed to meet the expenses of the association, they will collect only such percent of the total amount pledged as is necessary to carry on the work.

Whoever is president of your association during the coming year should get into a number of counties that you men represent where these canvasses have not been made. As I said in my address, this is the only plan that has saved your organization. It is a serious question in my mind whether or not you would have had an annual meeting in 1911 if this association had continued under the old system. The local men were discouraged because the farmers were not paying their dues, and they didn't have the heart to go after them. There was no money coming in, and we couldn't pay Mr. Thorne for his work or enter a protest in any rate advance, or anything of that kind, because we didn't know whether we would have money to employ men to fight those cases. And so it was simply up to the board to change the system or dissolve the organization.

Mr. Arney: Do you know how many counties in the state are unrepresented?

President Sykes: The secretary says we have over sixty represented.

Mr. Arney: That would be about forty counties. Isn't someone getting those counties interested?

President Sykes: I am glad you raised that question. I expect there are a good many men here who could get in touch with other counties that are not organized. It is almost impossible for us to do that unless we can get hold of somebody to lead the was to get in there. The best way to get into those counties where we are not organized is through your farmers' institutes. If you can get a speaker from this association on the program of an institute or some public gathering of that kind in the county, and let him make an address there on the value of this organization to the farmers, and in a general way cover its work, the farmers will be awakened at once. During the past year I have organized several counties in just that way.

I have found out that some of the institute people have objucted to such an arrangement because they thought there was some political move behind it, or something of that kind, and they didn't want to mix up with it for fear it would hurt the institute. If you can show those people that have charge of the institutes the value of this organization and what it means to the farmers of Iowa, you will dispel all of their fears along that line. I don't say this boastingly, but I have been invited the third time to speak at institutes in this state. It isn't Sykes they care about; but they want to hear what this organization is doing.

You can't go into a new county with this five-year pledge proposition, where they don't know anything about this organization, and make any headway. You must first educate the people on what you are doing, let them come in on the regular membership plan, and after a year or two they will take up the five-year pledge. That has been the history so far as I have been able to canvass the counties in the last two years. We must get in touch with the leading farmers who are active in this kind of work, and then we will not have any trouble.

Some of you may wonder why this membership work doesn't grow faster, but there has never been but one man to do any of it since we started, and that has been the president of this association; and all of that work has to be done in three or four months. You can't go out among farmers at any time of the year and pick up someone who can go around with you. During the winter we are engaged in the speaking campaign, and there are only about six months of the year when canvassing can be done. I will say that I have absolutely refused to go out and solicit members unless with a man whom I knew was absolutely above reproach in the community, so that after I left there wouldn't be any gossip about those fellows being out there gathering up a bunch of money, and nobody knew what was going to be done with it. Probably your next president will be a man who will be willing to go out by himself and do that kind of work; I am not speaking for anybody else, but that is simply my position, and I may be right or wrong.

Mr. Anglum: I want to take issue with Mr. Sykes in regard to his last remark to the effect that the people wouldn't know him when he got out in the country, and I am going to illustrate that by a little incident that occurred on the 30th day of last June.

If you remember, it was rather dry up in our part of the state last summer. We had heard a great deal about dry farming, and we had some experience in it up there. It got so dry that the old cows didn't have anything to eat, and I used to herd them out in the road. I was herding them on the 30th day of last June, right along the northern line of this state, where they got hold of a bunch of dry Dakota grass. Along about ten o'clock in the morning (I had on a pair of overalls and a last year's straw hat, and I am sure my costume would have shocked our friend Drury, there, if he had seen it), I looked up east and saw a man coming down the road with a broad-brimmed hat—without any coat or collar on, as I discovered after he got closer to me. I thought to myself: I wonder who is coming there? The old cows were contentedly grazing along the road. But all at once the old spotted cow at the head of the herd threw up her head and commenced to bellow, and, as I interpreted it, she said: "Here comes Sykes, the president of the Corn Belt Meat Producers' Association, and if we don't get back into that pasture we are apt to be on the block in a few minutes." And they all made a bee-line for the gate. The husband of the cows was the last to get through the gate, and he turned around with a "Br-r-r-r; hurry and shut the gate!" Everybody, even the old crooked-horn cows, recognize Sykes and know what he is doing, and it is not necessary for him to be timid about going out among the farmers. Everyone—even those who never saw him—knows he is all right, and that the Corn Belt Meat Producers' Association is all right. He might get fooled in taking some of us fellows out with him.

President Sykes: We have with us our friend, Mr. Downing, who has addressed us for the last two years, and I know you all want to hear him. Some of you didn't have the pleasure of listening to him last year, and we are going to give him a few minutes to show himself to the boys. By the way, he is an Iowa boy, now in Uncle Jim's department down at Washington.

THE SHRINK ON CATTLE.

Mr. Downing: Mr. President and Gentlemen of the Association: We are trying to do some work that I thought would be of interest to you people, and, incidentally, I want to ask a little assistance of you while I am here.

The railroads and the shippers have never had any basis upon which they could adjust claims for shrinkage. The railroads would not undertake to ascertain what constituted the normal shrink of cattle, because they knew very well that the shippers would not accept their figures; and the shippers wouldn't undertake it because they knew the railroads wouldn't take their figures. So they asked the Secretary of Agriculture if he would find out for them what is a normal shrink of cattle en route to market. The Bureau of Animal Industry was given the task, and I was assigned to assist in the matter. They sent a man to Texas last year, who weighed cattle from points in that state to the various southwestern markets. This fall we started out in the range country, in Wyoming and Montana, and weighed the range cattle from the various points in those two states to the Omaha, Chicago and South St. Paul markets. A little later on I came down into the sandhills of Nebraska, with headquarters at Alliance, and have just completed the work of weighing cattle from that district to market. I am going to move today to Boone, Iowa, and have my headquarters there, and will work through the northern half of Iowa for a couple of months, at least. In the meantime (probably about the first of February), we expect to get some cattle at Billings, Mont., and Sterling, Colo., where they have sugar beet factories and are fattening cattle on sugar beet pulp and alfalfa hay. We will get some samples of that kind of feeding, and take the shrink on shipping them to market. Last fall we secured some figures on cattle fattened on cottonseed hulls in Oklahoma and southern Kansas. Later on in the spring we expect to make records on cattle in Illinois and Indiana—likewise in Iowa—that have been fattened on ensilage. So that when we have completed our work—possibly by next May—we will have secured records on the various kinds of fed cattle from different distances en route to market; and the intention is to publish this information in a farmers' bulletin some time next summer, which will be distributed free, as I assume. That will give the farmers a basis on which to adjust their claims against the railroad companies, and will also give them some information as to what we have found to be the normal shrinkage of cattle from point of origin to destination.

In order that I may get as much done as possible in the time here, it is necessary for me to find out who the feeders are, and where they are located, so that I may go to them at the time they are ready to ship and get the weights on their cattle. In doing this it has been our practice to give the shipper information as to what his cattle have shrunk en route to market, and what the fill has been at the market. I will be very glad to get the names and addresses of members, with a statement as to about when they may expect to ship, that I may get around to their places as rapidly as possible this winter and weigh their cattle, if they will give me permission to do so.

I appreciate this opportunity of meeting you again. I was fortunate enough to get in last night and hear part of the banquet program, and I fine that the list of speakers, although not the same each year, has not fallen off in the standard of excellence, which is an indication that this organization is not deteriorating in any way, but continues to forge ahead and assume the initiative in a work which is of vast importance to the cattle-raising industry of the whole country as an example, and to Iowa in particular.

Mr. Murray: I can not for the life of me see how this is going to benefit us any. I order cars and ship my stock out one week and have a good run to Chicago; my stock goes in there in comparatively good shape, and my shrink is light. The following week I ship again; the railroad service is poor; they overload their engines, and we make slow time. We get in there late in the day; my cattle have been on their feet fully thirty-six hours; they are tired, and they don't eat, although they will probably drink. I can't see how one week's shipment would be any criterion for the next.

Mr. Thornburg: How are the cattle weighed in Chicago?

Mr. Downing: They will be weighed as soon as they arrive in Chicago, and then they will be weighed again after they are sold, so as to ascertain the fill at Chicago. By weighing them before they are put aboard the cars, and weighing as soon as they arrive, we find the shrink en route; then weighing after they are sold will give the fill.

I would like to advise the gentleman who just spoke that the only way we can arrive at a normal shrink is to take an average of a large number of records. We take the history of the cattle en route to market, including the weather, the number of hours of the trip, and anything that will have an influence on them. We also take the history of the feeding, the age, how far they have been driven, whether they are loaded full or dry, and everything previous to the loading that would have an influence on the shrink. For instance, on a shipment of five cars from Sheridan, Wyo., to Chicago, they arrived at 1:40 in the morning, and had an average shrink of 97 pounds. The following week the same kind of cattle from the same point, under similar conditions, had a net shrink of 57 pounds. We couldn't take either one of those as a basis, but if we have a large number of records, with a detailed history, we will possibly find out what an excessive shrink is, or, where there is a very light shrink, some of the causes—although we haven't penetrated that feature of the problem yet. As I understand it, the method of arriving at a normal shrink will be to take the average of a large number of records. Up to the present time I have personally weighed over 2,500 range cattle.

Mr. Drury: I think differently from our friend Murray. I believe this is a move in the right direction. I believe we will demonstrate to the railroad companies that if they will give us time instead of tonnage, it will be to their advantage and ours. I believe after taking these records for several months we will have conclusive evidence that this long time on the train benefits no one. If you start a steer to Chicago and bum him around on the road and make him dead on his feet when he gets in there, the eastern man doesn't want him, and the local man knows he will get him because the eastern man will not take him. But if that steer is laid down there as fresh as possible, you will have less shrink, and the butcher who buys him will have more meat.

Mr. Doran: I would like to ask Mr. Downing if he is keeping track of the time spent on the road.

Mr. Downing: Yes, sir. I make a record of the time when they are loaded, of the leaving time, how many hours they were between loading and unloading places, and I also get from Chicago the arrival time right down to the minute. Of course we don't know when they are sold. I have discovered that the fill at the market is very important; likewise the time that they arrive. If they arrive very early in the morning, it has been my observation that they don't fill; if they arrive very late, the alleys are clogged, and there is such commotion that they are not able to get them to feed before they are sold. If they arrive between 4:30 and 8:00 a. m., their chances for fill are much better than if they arrive later.

Mr. Doran: I think Mr. Downing has arrived at the right place to secure the information he is after. At the secretary's office you will find a quantity of records showing the running-time, the day loaded, the day weighed in Chicago, and all the statistical information on a great number of shipments. The secretary has sent out hundreds of blanks for shippers to report on, and we had this information before the committee on railroads and commerce when we sought to have a law passed known as the speed limit bill.

Secretary Wallace: I am sorry to report that we don't get nearly as many of those shipping reports as we ought to have. Two or three years ago, when we were in the midst of the fight over here, we made a special effort and got a very large number —I think I had at that time four or five hundred—from every part of the state. They were of tremendous value to us in our hearings before the Iowa legislature and in our conferences with the railroad people when we were endeavoring to remedy the matter of service. Now, although I think every member has had put in his hands one or more of these reports, I am getting very few. Some way, we don't seem able to get our members to understand the value of these reports to us. We ought to have one of them for every shipment made by the members of this association. You never can tell when you will want the information that these reports would give. I sincerely hope that our members will help in that. There is no way in which they can serve themselves so much as by enabling us to accumulate this information and have it laid away ready to draw on when we need it.

Now, there is this to be said about these reports and this matter which Mr. Downing is dealing with. These reports do not give just the information he is trying to get. Comparatively few of them give us the weight of the cattle at the time of loading, and consequently they don't give us the amount of shrink. For my part, it seems to me our members ought to help Mr. Downing in this matter. We have never found that exact, truthful information has hurt us; in fact, our fights have been won by bringing out the truth with reference to the live stock business and the conditions of shipment; and if by helping Mr. Downing we can accumulate a mass of information which will be taken as absolutely correct, because of being taken by government employes, there is evidence which we can introduce that will be taken at its face value by the Interstate Commerce Commission or any other commission.

Mr. Hussey: I have one of those circulars sent me every year—and I intend every time I take in a shipment to take one along with me, but the day that I ship we are always so busy that we forget it.

President Sykes: I brought out in my annual report yesterday that if you forgot to take those reports with you, you always have a memorandum book in your pocket, and all you have to do is to note down those things in that book, and when you get home copy it from the diary on your report, sign it, put the proper dates of the shipment on it, and mail it to the secretary of your association.

It seems that the impression has gotten into the minds of some of our people that if they have a good run, we don't want that kind of a report. We certainly want it just as much as if they gave you a rotten run; because it shows what the railroads can do. If they make a run from western Iowa to Chicago in twenty-six hours, it shows that they can do it. Probably your next report will show that they took thirty-six or forty-eight hours to make the same run.

Mr. Murray: I don't want to give the impression by my remarks that I want to throw a damper on Mr. Downing's work. There is bound to be a shrink; you can't get past that. I think the first thing to be ascertained is how those cattle are fed prior to shipment. Every cattleman knows that there is quite a difference in preparing cattle before they are put on the cars, and some people live eight or ten miles from the shipping point, and others close by. My experience has been that the condition of the weather during the time they are on the train and when they arrive has a good deal to do with the shrink. If they get in on a cold, disagreeable morning, there will be a heavy shrink; if it is a nice morning, there will be a lighter shrink.

Mr. Arney: Theory is one of the nicest things that we have to talk about; practice is the thing that counts. If you are going to get those statistics perfectly accurate, you must have special men, and they must sit up and take notice the whole trip.

President Sykes: I want to say in connection with this discussion that Mr. Hamilton Wilcox, who is now dead, told me last summer of an experience he had in shipping a bunch of cattle from Montana or Wyoming, where he had a ranch, to Chicago. His caretaker took a report blank with him. They were delayed on the road—I think three days over the time which they should have occupied in reaching Chicago. While his caretaker probably didn't fill out the report with absolute accuracy, it was accurate enough for the court to accept it as evidence, and Mr. Wilcox secured a verdict against the C., B. & Q. railroad of $650. Of course we don't suppose the caretaker sat up all the way from Wyoming to Chicago, but Mr. Wilcox's lawyer told me that if it had not been for that report furnished by this association he never would have won out in that case. So it might be of value to you in a damage case.

Mr. Thornburg: Who weighs the cattle when they land in Chicago?

Mr. Downing: We have a man assigned there who makes it his business. I wire him the numbers of the cars, the train, and the leaving time, so he looks out for them, and as soon as they reach there they are weighed, regardless of the time of night.

Mr. Ritgers: I have a question that I would like to put to this association. I suppose probably nearly all the men here are feeding cottonseed meal in some form. Last winter I fed what is called the fine meal. I objected to handling it because it was nasty on the clothing and blew away pretty badly, and I attempted this fall to get something different; but the only thing I could get was so coarse that the cattle didn't masticate it sufficiently to get it digested. I tried to get meal that is crushed to the consistency of shelled corn, but they all told me they didn't have such a thing. I also found that silage-fed cattle don't masticate that crushed seed as they ought to. It is very hard, and their teeth are quite a bit softer than in those that are eating ear corn. I also found that those that liked it would get more than they ought to, and the fellow that was slow wouldn't get a proper amount. The question is, can we get sentiment or pressure enough to induce the manufacturers to crush that meal in a different manner, so that we can get better results?

President Sykes: I think Mr. Ames could give us some information on that cottonseed meal question. He has been quite a heavy feeder.

Mr. Ames: When a man who has been feeding cattle tries to tell somebody else how to feed, or what kind of feed to use, he gets into trouble. I think I have fed all kinds of meal that are manufactured, and my experience is that in feeding fat cattle either shelled or ear corn I have the best results with the least waste on the fine ground meal. Of course you can't handle cottonseed meal in any form but what you will turn yellow. It is a yellow feed, but it is clean and sweet, and a man need not object to the color. As for the wind blowing it away, it doesn't blow nearly as much as you think for. It is a very heavy meal; it only takes a small sack to weigh a hundred pounds; and while you do see some dust blowing, if you have twelve-inch bottoms in your feed boxes you will lose very little meal—in fact, in my experience, the least of any kind of feed. If you feed corn that is not thoroughly ripened, you do lose some meal.

If I were feeding store cattle on corn fodder, either chopping it with the ensilage cutter or feeding it whole, corn and all, I would prefer to have the nut size of the meal.

If the gentleman wants the size of meal known as the pea size, many mills make that; but you don't find anyone asking for it, because they prefer the other seed. Where you are feeding store cattle part ration of ensilage or clover hay and corn fodder, I think the cold-pressed cattle cake is a little better than the fine ground meal. That has been my experience; some other fellow will tell you something different.

INSURANCE IN THE STOCK YARDS.

Mr. Corrie: There is one thing that I would like to call your attention to. I don't know how much is in it, but I think it is well to think about. A friend of mine to whom I have shipped, who is now vice-president of the Live Stock Exchange, wrote me some time ago on the matter of insurance on stock while in the yards at Chicago. He said they had been discussing the matter in the exchange and trying to locate the responsibility in case of loss by fire. They didn't think they were liable, and had been advised by lawyers whom they had consulted that the cattle were the shipper's until they were sold. The occasion of his writing me was that there was a proposition on foot to add 25 cents a carload to the commission charges to pay insurance, but he said the Corn Belt Meat Producers' Association had kicked so against the increased commissions that he wanted to know what we thought about it before he took a position as a member of the board. That was two or three years ago. Recently I asked him if there had been anything done about the matter, and he said no. I wrote him that as far as I was concerned, 25 cents a carload didn't amount to anything. He thought 25 cents a carload on what came in there would pay an insurance that would protect the shippers, and I have sometimes thought maybe it was worth looking into.

Mr. Ames: I don't remember of one carload of cattle being lost by fire in the stock exchange at Chicago—not saying but what there might have been. In the next place, as soon as the cattle leave your hands and enter the stock exchange of your shipping station, they don't belong to you. I doubt very much if you can go down to the stock exchange at Chicago, after consigning a load to your commission firm, and get that load of cattle until they are sold, unless he wants to give them to you. They belong to the man who has them in charge. You ask the railroad company to settle for your cattle in case of an accident on the way, and because it has assumed the responsibility of those cattle for the time being they belong to it. If my steers were lost in Chicago by fire, I wouldn't go to the Stock Exchange Company, and I doubt very much if I would go to the railroad company. I would have to go to my commission firm, and if they were worth it I could get my money.

Mr. Wallace: Does not the commission company act as your agent in selling those cattle?

Mr. Ames: No; they own those cattle, to all intents and purposes. They have it in their power to sell a load of cattle consigned to them in spite of all that you can do.

But, gentlemen, there is another point in this insurance which I think is feasible, and which this association might regard favorably, and that is that if 10 cents were paid by every car that came into the stock yards, and held as a sinking fund to protect the shipper on his claims, you wouldn't have as much trouble as you are having now on the claim subject. I think that is a legitimate proposition, but that the other one is not.

Mr. Swan: The shipper who consigns has no protection whatever on his property; he takes his chances on it?

Mr. Ames: Yes, there is no bond put up except the $5,000 which every man must put up to the Stock Yards Company that his freight is paid. The shipper has no protection whatever except what he can get out of the individual to whom he ships. Whenever you consign a carload of cattle to a firm, they pass out of your hands. I knew I am right; just as sure as I know anything that I don't know.

Mr. Hunt: If Mr. Ames' statement is correct, and the commission merchant was responsible for the losses in many instances, I am afraid he wouldn't get very much insurance.

President Sykes: Mr. Hallett, of Chicago, who has been in the live stock business for years, is with us, and can doubtless give us an opinion on this matter.

Mr. Hallett: I don't know that the matter of the liability of the commission firm has ever been definitely settled in a trial, but it is the opinion of all commission men that we act as agents only. The Stock Yards Company is the agent of the railroad companies. I know that to be a fact, because I was interested in a case in southwestern Iowa that brought up that very point. A load of cattle was consigned to us and delivered to another firm, and we put in a claim for damages. The Stock Yards Company refused to pay us, and we brought suit in the United States District Court, in Fremont county, and the railroad company paid the claim. The commission firm to whom cattle are consigned and delivered acts as the agent of the shipper. They belong primarily, I presume, to the commission firm, but if for any reason the man is not satisfied, I don't think there is one firm in a hundred in Chicago that wouldn't turn that load of cattle over to any other firm that was designated.

Mr. Ames: Isn't that courtesy rather than because you are compelled to?

Mr. Hallett: It is entirely a matter of courtesy. I have done that myself and seen it done hundreds of times. Of course, the other firm would have to pay us the yardage and the freight, but we never charge them commission.

President Sykes: The question, as I understand it, is: Could the shipper legally take those cattle out of your hands, if he paid the charges, and turn them over to another firm?

Mr. Hallett: Not unless he garnished them. We would not have to give them up unless we wanted to.

Mr. Ames: Doesn't that clinch my argument absolutely?

Mr. Hallett: In twenty-five years I have never known a case where a drove of cattle were garnished.

Mr. Wallace: Suppose I consign a carload of cattle to you, you receive them; I come in there before you sell them, and say that I don't want to sell them; I want to take them back home. Do I have to garnish them?

Mr. Hallett: I never knew of a case where that was done.

Mr. Ames: Don't lose the point now. Are you compelled to give those cattle back to him?

Mr. Hallett: At his request? I don't know exactly as to that; I doubt it.

Mr. Ames: I do, too. Don't you know that you don't have to?

Mr. Hallett: I never knew of a case where that was done. But where a thing is consigned, I rather think it belongs to the consignee.

Mr. Wallace: Then you shouldn't say you are acting as agent; you can't act as agent and owner both.

Mr. Hallett: I am not in a position to discuss the legal question. Mr. Ames says he never knew of a loss. If you will remember, we lost about 700 cattle in a fire in the Union Stock Yards last Fourth of July. That was the reason this insurance matter was brought up, but it didn't seem to meet with much approval through the country, and I believe it was dropped entirely.

Mr. Ames: Who paid the loss?

Mr. Hallett: The owners of the cattle; they lost the cattle.

Mr. Swearingen: I move that our president and secretary take up this matter and find out who owns these cattle after they leave our hands, and that it be reported at the next meeting.

Mr. Drury: There isn't the least doubt in the world but what we own the cattle; it doesn't need any investigation.

Mr. Doran: I would like to ask Mr. Hallett whether the stock yards or packing company is a common carrier. In the decision on the $2 switching charge, it was held by the supreme court that they had a right to make that charge, because they carried the cattle at their expense. If they are common carriers, I don't see how they could avoid responsibility for the stock destroyed while in their care, under the present law.

Mr. Ames: Does that motion carry with it the only means of settling this question?

Mr. Swearingen: That motion stated on the face of it just what it meant, and any other motion can be made subsidiary to that.

Mr. Ames: I anticipate, then, that we will have to provide for a lawsuit; that is the only way it can be decided.

President Sykes: Mr. Wallace suggests that possibly this information can be obtained and published in the coming annual report.

(Motion duly submitted and carried.)

The secretary has had correspondence with a number of parties concerning the matter under discussion. The following is quoted from a letter received from C. W. Baker, secretary of the Chicago Live Stock Exchange, on January 19th:

> The Stock Yards Company at these yards, and the commission merchants absolutely and unequivocably deny any responsibility for loss of live stock by fire. The commission merchant is, in fact, a commission agent or broker, acting for and in behalf of the consignor or owner of the live stock in the capacity of agent, and cannot be held as such for any loss by fire that may come to any live stock in his possession as such agent, the title and ownership of such stock being vested by law in the owner, and can only be taken from the owner by process of law.
>
> I understand that the Louisville and Cincinnati Stock Yards Companies make a charge of 10 cents per head for live stock coming into their yards, in return for which they provide insurance and guarantee owners against any loss by fire while stock is in their possession.

The right of patrons from different markets to recover for loss by fire from either the Stock Yards Company or the seller has never, to my knowledge, been determined by the courts.

The writer has, at numerous times in the last twenty-five years, undertaken to have this question definitely settled in anticipation of the loss, and I am still of the opinion that the responsibility should not only be determined, but provided for as may be agreed upon, thereby eliminating the contention that would surely follow in the event of a large loss by fire at these yards.

On the questions especially of ownership of live stock which has been consigned to a commission merchant, we quote the following letter from the firm of Clay, Robinson & Company:

While we are not aware that the question to which you refer has ever been brought up in the courts or any decision rendered, clearly defining the rights of the two parties, we may say that this firm recognizes the right of any shipper consigning stock to them to demand the return of such stock any time before it has been actually sold, provided, of course, there is no lien against the shipment in question, and that any charges for freight, yardage, feed or other expenses which have accrued will have been paid or guaranteed. It is quite frequently the case that railroad agents make mistakes and that stock comes in here consigned to another firm than the one for which it is intended. In all cases where we receive stock not intended for us, it is cheerfully surrendered at the request of the shipper. Again, stock is quite frequently sold after being loaded and consigned, and as the buyer may desire another firm to handle the stock, the same rule applies. If the shipper wires us for a release of his stock in transit, we have no hesitancy in telegraphing such a release, provided of course, we have no claim against the stock. The commission man is merely the agent of the shipper, and as such he must respect the rights of the shipper in his own stock. It frequently occurs that drafts are drawn against shipments of live stock in transit. If the maker of such draft desires to dispose of his stock en route, he could very easily do so, and if the railroad company released the stock of their own volition, the only recourse the commission man would have would be upon the railroad company. Consequently, before the railroads will release stock already consigned, the owner must obtain a release from the consignee. To this extent the stock is the property of the consignee.

While at all times recognizing the rights of the shipper to his stock, it is not well for shippers to consign directly to themselves, as this almost invariably means a delay in the delivery of the stock upon arrival; and, again, where the stock is consigned direct to a commission firm, the shipper is really protecting his interests, as, naturally, the firm is in a better position to attend to the matter of a claim against the railroad for any unnecessary delay in transit or for any loss or damage which the stock may have sustained en route.

BUYING FEEDSTUFFS.

Mr. Drury: The matter of buying protein has got to be a very serious question with cattle feeders in Iowa. I have never fed any cottonseed, but have sold thousands of tons of oil meal. It seems to me the cattle feeders should make a united effort through the association to buy this meal direct from the mill and cut out the middlemen. There are too many middlemen living off of us whom we don't need to support. I don't know whether it can be bought direct from the mill, but I am anxious to get some of the meal later on and am investigating that.

Mr. Ritgers: I wrote to a mill company for a price, and got it, and it wasn't two days before I got prices again, withdrawing the old prices. I knew the dealer who had been handling that grade of meal, and he had gotten in communication with the mill and made them put on a dollar and quote me a new price. I placed my order with another firm at $1.25 per ton less than I had been quoted in the first place.

President Sykes: I consider that an important question to the feeders of Iowa, and if anything can be done along that line, it certainly should be. We will now stand adjourned until 1:30 p. m.

The secretary has made arrangements with several firms who are willing to sell cottonseed meal in car lots direct to our members. Names will be furnished on application.

AFTERNOON SESSION.

President Sykes: We will listen to the report of the committee on the time to be given the railroad companies when ordering double-deck cars for the shipment of sheep to Chicago or any interstate point. Mr. Brockway is chairman of that committee.

Mr. Brockway: We took this matter up and went into it quite carefully. It is our opinion that from the market centers—Missouri river markets, Chicago, St. Paul, Denver, etc.—these double-deck cars should be furnished upon order, the same as any other cars. For instance, if we went to Omaha today and wanted a double-deck car, we should be furnished it; they should be kept on hand at these points. For intermediate shipments, they should be furnished upon three days' notice. The commission, I believe, suggested five or six days' notice. That works a hardship upon the shipper in this way: We don't know until we get the report of Wednesday's market whether we want to ship for Monday or not, and we probably have to load by Saturday for Monday. By giving three days' notice on Wednesday, after getting the report of the market, we should have the car furnished by Saturday for the next shipment. This will of course necessitate the railroads keeping these double-deck cars at division points along the line, and we thought that was not asking too much.

Upon motion of Mr. Drury, duly seconded, the report of the committee was adopted.

(Note: This report was presnted to the Interstate Commerce Commission. That body, however, fixed the notice at five days, with the understanding that if this did not work satisfactorily to the shipper, they would give it further consideration. Written notice is not required. —Secretary.)

President Sykes: We will take up the reports of the chairmen of the different congressional districts in regard to the selection of their directors.

The roll of districts was thereupon called by the secretary and the following nominations made: Second district, E. D. Baird, North English; fourth district, William Larrabee, Clermont; sixth district, J. F. Eisle, Malcom; eighth district, Jerome Smith, Corning; ninth district, James Boiler, Griswold; tenth district, J. R. Doran, Beaver. The above named persons were thereupon unanimously elected.

President Sykes: The next committee to report will be that on resolutions concerning the death of Mr. Hamilton Wilcox, director from the ninth district, and Senator Ames is chairman of that committee.

The report of the committee was presented by Mr. Ames, as follows:

IN MEMORY OF HAMILTON WILCOX.

Whereas, In the wisdom of Almighty God, the hand of death has taken from our midst our brother and fellow-worker, Hamilton Wilcox; and,

Whereas, In view of his long services in this body as director, signifying at all times his willingness to sacrifice personal comfort to public service and the advancement of the work of the Corn Belt Meat Producers' Association; therefore, be it

Resolved, That we extend to his family our sympathy in their sorrow, and join with them in remembrance of his sterling worth and upright character.

A. L. AMES.
F. T. SWEARINGEN.
S. M. CORRIE.

Mr. Ames: It is not often that this association has been called upon to write resolutions of this kind. I think this is the first occasion where one of the official members of the association has dropped out of the harness. I was personally acquainted with Mr. Wilcox, meeting him here when the organization was first started, and it was always a pleasure to do business with the man—meet him and get the inspiration of what he thought should be done for the benefit of the people of the state of Iowa. I want to say that we always found him to be a modest, frank and mighty big man in every way. The simple resolutions which I have read but feebly express the feeling that those of us who knew him best have for him and his work. I move the adoption of this report by rising vote, and that it be incorporated in the minutes of the meeting, and a copy sent to the family. (Motion duly seconded and carried unanimously.)

Mr. Ames brought up the matter of the abuse of the shipper's pass and the crowding of cabooses in consequence thereof. The subject was discussed by Messrs. Doran, Murray, Ritgers, Corrie and others, and, upon motion of Mr. Thornburg, was referred to the board of directors for attention.

President Sykes: We will now hear from the committee on resolutions, of which Mr. Ralph Sherman is chairman.

Mr. Sherman presented the report of the committee and moved its adoption, as follows:

REPORT OF COMMITTEE ON RESOLUTIONS.

Your committee on resolutions congratulates the association on the good work it has accomplished during the eight years of its existence. We highly appreciate the excellent work of President A. Sykes and our secretary, H. C. Wallace. We heartily endorse the excellent work of our officers and directors, and unite in granting them our hearty support in any work they may see fit to undertake. Your committe offers the following resolutions:

Resolved, That we deplore the tendency of the railroads to advance freight rates on live stock by increasing the minimum carload. The live stock industry in the west is in a critical condition; it should have the fostering care of not only the railroads, but of all business interests, because upon our live stock industry depends the welfare of our agricultural life, and upon agriculture depends the life of the nation. We recognize the right of the carriers to a fair profit upon the live stock business and we maintain that the present rates yield them a fair profit, and no reliable evidence has ever been presented to show that they do not.

Resolved, That on account of the extremely slow and unsatisfactory service frequently given our shipments by some of the railroads, thousands of dollars are lost annually to the farmers and feeders through increased shrinks and cattle becoming stale before reaching market. Wherefore, we demand that the railroads be required by an act of congress to render such service as is necessary to avoid this loss and deliver our stock in the market in a reasonable time.

Resolved, That we believ there is no reason for the existence of the newly created Commerce Court, unless it be to defeat the purpose of federal regulation and supervision of interstate railway traffic. That it is effective of the purpose of defeating such federal regulation and supervision is manifest through its reversals of the findings by the Interstate Commerce Commission, and its apparent indiffernce to the interests of shippers. Believing that the rights of all concerned in transportation matters can and will be amply protected by the federal and supreme courts, we therefore urge upon congress that it repeal the law creating the Commerce Court at an early date in its present session.

Resolved, That on account of the rapid development of the live stock industry of South America, and the demand that has been made upon congress to take the duty off of live cattle and dressed meats, we view with alarm such procedure, and demand that as long as this government is committed to a protective policy, the farmer and stockman shall be given the same measure of protection on his farm products that the manufacturer enjoys.

Resolved, That we are unalterably opposed to a ship subsidy in any form. The effect of such subsidy would be to compel the American farmer to help pay the freight on dressed meat from South America and other foreign ports to our own market.

Resolved, That we endorse the action of the federal government in the investigation and prosecution of the packers' trust.

Resolved, That we approve the acts of the directors and officers of this association in opposing advances in rates on live stock, and request them to take such action in the future in opposition to such advances as in their judgment seems necessary, and to incur such expense as may be necessary in opposing advances of either state or interstate rates.

Resolved, That we express our disapproval of the acts of the last general assembly in refusing to appropriate a sufficient sum to cover the expense of printing briefs and the expenses of Commissioner Thorne, incurred while going to Washington to argue the recent advance rate cases. The laws of this state provide that the commission shall represent the people of Iowa in such cases. Winning this case saved the people of Iowa nearly two million dollars annually in freight rates, and it is clearly the duty of the state to bear this expense.

Resolved, That, realizing that scientific agriculture is the only means of combatting the high cost of living and the depletion of our natural fertility, we heartily commend to the people of Iowa the work done by our agricultural college and experiment station, and we especially commend the extension department in carrying scientific and practical instruction to the farmers' homes.

Resolved, That we demand of our senators and representatives the prompt enactment of a law which will give us a general parcels post, and thus permit our citizens to use their own mail system as freely and as cheaply as citizens of foreign countries are now permitted to use it.

President Sykes: Rev. A. E. Kepford has a matter that he wants to present for just a minute or two.

Mr. Kepford: Mr. President and Gentlemen: Last night after the banquet. Professor Holden came to me and said that he wished I had spoken to the meat producers concerning a project which we have had under advisement for a year. Professor Holden has proposed that a tuberculosis special train shall be run. He would invite experts on tuberculosis to accompany it, and he would have a corps of expert men from the agricultural department who would speak to the farmers of this state concerning tuberculosis in cattle and the methods by which it could be prevented. At one time Professor Holden could have carried on a project of this kind without asking particularly for anyone's influence, but under the present regime it is necessary to bring certain influences to bear in order to have it go through. Professor Holden asked me to present this matter to the members of the Corn Belt Meat Producers' Association. You know the influence you have, and where to bring it to bear, if you feel favorable to the project; that is, upon the educational board of control, by suggesting that such a special would be a splendid thing, and of great value to the meat producers and the industrial interests of the state.

President Sykes: I believe we are through with the routine business of this meeting, and we are now ready for the election of officers for the ensuing year. The first is the election of a man for president to succeed myself. Nominations are in order.

Mr. Swearingen nominated A. Sykes to succeed himself. The nomination was seconded by Mr. Anglum and submitted to rising vote by Mr. Swearingen, who declared the election unanimous.

President Sykes: Gentlemen, I wish to thank you for the honor you have again seen fit to bestow upon me. I have about come to the conclusion that somebody who can't do anything else must take this work, and you fellows have made up your minds that I am not fit for anything else, but that you can get something out of me here; so year after year you continue to harness me.

Some might wonder why I did not refuse to accept this position at this time. Will say by way of explanation that when the association practically forced it upon me a year ago, I was obliged to re-lease my farm for a term of years, and my plans were changed entirely. On this account I can very easily take charge of the association for another year, and it will not interfere with my personal affairs.

It gives me satisfaction to believe that you men do really appreciate what I have tried to do in this organization, and one thing that gives me gratification is the fact that I have never asked a man to vote for me for president of this association. I have always taken the position that this organization belonged to its membership, and that the members should determine who they wanted for officers; and if they did not want Sykes, I wanted and expected them to say so, and select somebody else. I think I have stated before that I have never thought that Sykes was the only man in this organization that could make it a success. I am sure that you have better material in this association than your humble servant who stands before you, but it seems that I am again your choice.

Every year the burdens of this office become greater, because as the association grows the work develops and new issues enter into it. But be this as it may, I am just going to say, as I have said before, that if the Lord spares my life I will give you the best there is in me for the coming year; and I will also expect you men scattered over the state to do your part. So when I ask you during the coming year, as I will, to help me canvass in your localities where I have not canvassed, and probably in some places where I have done some work, I don't want you to say: "Well, Sykes, I just can't do it; there is no use talking, I can't take the time." I have been a farmer all my life, and I know that it will be a sacrifice to you most any time; but we must make this sacrifice. This organization in the future will be just what we make it, and under the system on which we are now working we can make an organization that can be handed down to future generations and be a blessing to them and stand for the things that are right in Iowa. Again I thank you for the honor that you have conferred upon me.

The next nomination in order will be for vice-president.

Mr. Brockway: This is one office of the association where, if the honors are great, the burdens are equally light. I have enjoyed this honor for two years, and I appreciate it from the hands of this association; but I think it is better for the organization that it be passed around. Any member can easily fill it, but I think the office should go to someone who is in the real "big gun" class, and I would therefore nominate our friend from Blackhawk, Mr. R. M. Gunn.

The nomination was duly seconded, submitted to vote, and Mr. Gunn was declared unanimously elected.

Mr. Gunn in accepting the office urged upon the members a more thorough Sabbath observance, and appealed for better support of the country churches of Iowa.

President Sykes: The next nomination in order is for the office of treasurer.

Mr. Anglum: I would nominate Mr. Goodenow to succeed himself.

Mr. Corrie: We have been electing our offices here one after another, and while I am not doing this to influence the board of directors, I would like to move that in an unofficial way we express by rising vote our appreciation of our secretary, who is our official toastmaster.

Motion duly seconded, submitted to rising vote and declared unanimously carried.

Secretary Wallace: Boys, you don't need to make a motion to let me know that you appreciate whatever I have been able to do, because I am conscious of it every time I come in contact with you.

I just happened to run across in the secretary's book, as I was looking it over, a memorandum of the statement that I made the first time I was elected secretary: that I would serve that year, but that I wanted the directors to arrange as soon as they could for someone to take my place. But some way they have never gotten around to it, and I am somewhat in the situation of the southern girl who had reached the age of twenty-five or twenty-six unmarried. One evening she had been out to a gathering with the young man who had been paying her attention, and came home rather late. As her old negro mammy was taking down her hair, she said: "Honey, is you going to marry Marse Richard?" "Why," she said, "I don't know. Don't you think we are pretty happy as we are? I don't know that I would be any happier married." "Well, honey, you are getting old." "Yes, but we are having a good time here, you and I." "Well," the old woman answered, "I have noticed this, honey: that maiden ladies are mighty happy after they once quit strugglin'." I feel rather settled down myself now.

Mr. Murray: I wish to say a word before we adjourn in regard to our friend from Nebraska. He is eighty years old his next birthday. He joined this association at its birth, if I remember rightly, and he has attended the meetings each year and paid his way. This year he has brought another member with him, and I would like to have this association give three cheers for Mr. Hill.

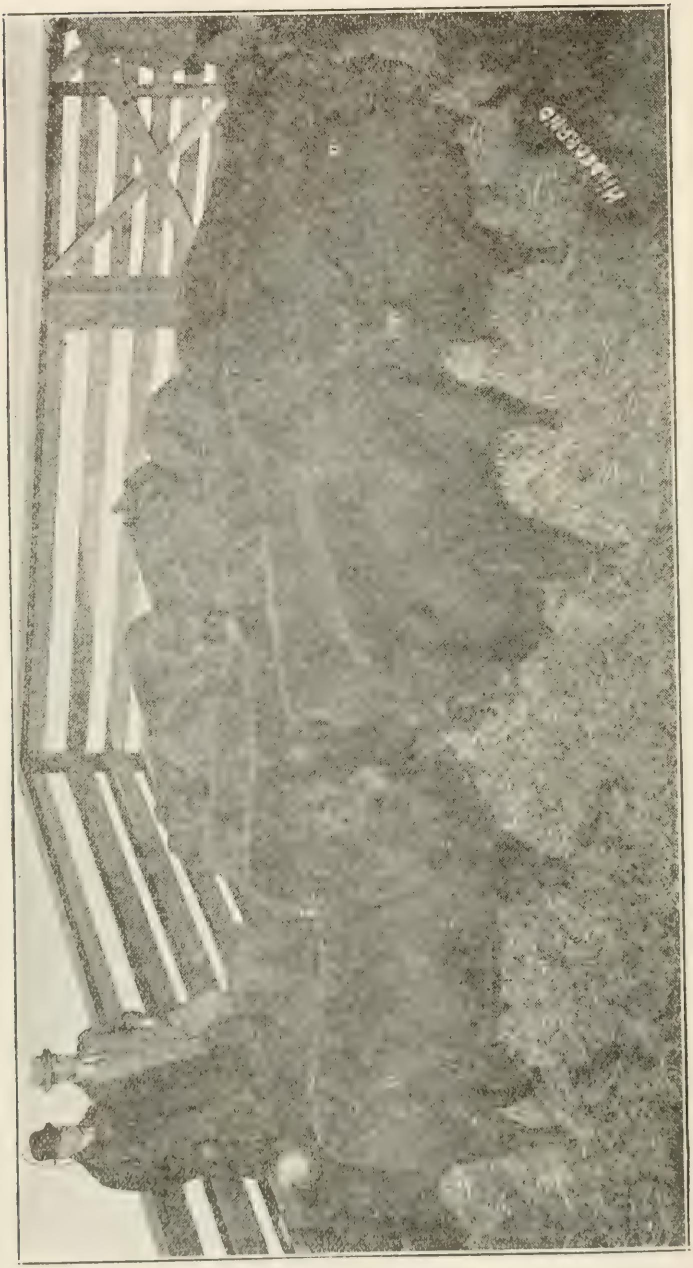
President Sykes: Everybody out with his handkerchief.

The three cheers were given with a gusto.

The convention thereupon adjourned sine die.

DIRECTORS' MEETING.

Immediately following adjournment, a meeting of the directors was held. H. C. Wallace was re-elected secretary. The salary of the president was continued at $1,800 per year and expenses, and an allowance of $1,000, as heretofore, was made for the secretary's office. Messrs. Sykes, Thornburg and Wallace were appointed as members of the Executive Committee, with full power to act.



IOWA CHAMPION CARLOAD LOT OF STEERS
International Live Stock Show, Chicago, 1911

PART V.

SYNOPSIS OF PROCEEDINGS
OF
STATE BOARD OF AGRICULTURE
AND
COMMITTEE MEETINGS
1910-1911

EXECUTIVE COMMITTEE MEETING. DECEMBER 20-21, 1910.

Committee met with the president and secretary present, also member of the board E. J. Curtin.

The board having authorized the executive committee and the superintendent of speed to arrange the speed program for the 1911 fair, the program was agreed upon, also rules for the early closing purses.

The executive committee and Mr. Curtin visited the fair grounds to inspect the work in completing the grand stand, final settlement with contractors having been withheld until such time as the exits had been made satisfactory to the committee. The work was carefully gone over and it was agreed that the Des Moines Bridge & Iron Works had fulfilled their contract; secretary was therefore authorized and instructed to issue warrant in their favor for full settlement, balance due being $1,157.47, at such time as the contractors had filed with the secretary a written guarantee on the gravel roof in accordance with the guarantee that usually accompanies the laying of a composition roof, this guarantee to be in lieu of the one filed by the sub-contractors, the A. P. Nichols Roofing Company.

SUMMARY OF CONTRACTS WITH THE DES MOINES BRIDGE & IRON WORKS FOR WORK AT THE IOWA STATE FAIR AND EXPOSITION GROUNDS, SEASON OF 1909.

Jan. 1, 1910.		Credits	Debits
May 5, 1909	Amount of contract for amphitheater..		$78,900.00
June 24, 1909	Credit for omitting four turnstiles....	$ 460.00	
July 12, 1909	Paid by warrant No. 7156............	38,000.00	
July 22, 1909	Extra for 4 wire guards for windows..		
	Extra for 2 wire guards for doors....		
	Extra for 2 wire guards for transoms..		21.40
Aug. 18, 1909	Paid by warrant No. 7228............	25,000.00	
Aug. 25, 1909	Extra for railing at rear of reserved seats		160.00
Aug. 16, 1909	Extra for labor and drayage in changing step angles....................		20.40
Sept. 30, 1909	Extra work raising beams on mez. floor		83.00
	Extra for changing risers and treads on front stairs from wood to concrete.		125.00
Sept. 27, 1909	Paid by warrant No. 7418.............	12,000.00	
Dec. 31, 1909	Paid by warrant No. 7701............	2,800.00	
		$78,260.00	$79,309.80
			78,260.00
	Balance due on amphitheater.........		$ 1,049.80
	Extra for grading at east entrance....		107.67
	Total balance due on amphitheater contracts		$ 1,157.47

The amount of bonds to be filed by the secretary and treasurer was fixed as follows:

Treasurer's bond	$50,000.00
Secretary's bond	10,000.00

Secretary was authorized to have the superintendent of the fair grounds haul cinders from the state house and the Elmwood coal mines to the fair grounds, at 90 cents per load for hauling.

EXECUTIVE COMMITTEE MEETING

JANUARY 6, 1911.

Members present, Cameron and Simpson.

Mr. Cameron announced the following list of standing committees for the year:

EXECUTIVE.

C. E. Cameron
John Ledgerwood
J. C. Simpson

AUDITING.

C. W. Phillips
R. S. Johnston
T. C. Legoe

RESOLUTIONS.

E. M. Wentworth
F. E. Sheldon
E. J. Curtin

POWERS AND DUTIES OF THE BOARD.

C. E. Cameron
John Ledgerwood
J. C. Simpson
E. M. Reeves
C. F. Curtiss

ADULTERATION OF FOODS, SEEDS AND OTHER PRODUCTS.

E. W. Stanton
E. M. Wentworth
W. B. Barney

NOXIOUS WEEDS, FUNGUS DISEASES IN GRAINS, GRASSES, PLANTS ETC.

E. M. Reeves
J. F. Summers
O. A. Olson

DAIRYING AND DAIRY PRODUCTS.

W. B. Barney
O. A. Olson
J. F. Summers

ANIMAL INDUSTRY.

C. F. Curtiss
H. L. Pike
P. O. Koto

LEGISLATIVE.

C. E. Cameron
John Ledgerwood
J. C. Simpson
C. W. Phillips
F. E. Sheldon

REVISION OF PREMIUM LIST, RULES AND REGULATIONS.

C. E. Cameron
John Ledgerwood
J. C. Simpson
R. S. Johnston
H. L. Pike
C. F. Curtiss

EXECUTIVE COMMITTEE MEETING.

JANUARY 12, 1911.

Members present, Cameron, Ledgerwood and Simpson.

In accordance with the resolution of the Board under date of Dec. 15, 1910, the compensation of J. C. Simpson for extra services as member of and acting clerk to the Executive Committee on matters pertaining to the management of the State Fair, was fixed at $1,800.00 per annum, payable monthly, out of the State Fair funds, dating from Dec. 15, 1910.

Mr. James H. Deemer was appointed as custodian of the State Fair Grounds to serve at the pleasure of the Executive Committee, and his compensation fixed at $1,000.00 per annum, payable monthly; he to have free house rent, garden plot, down wood for fuel, and pasturage for cows and horses, not to exceed six head.

Secretary presented the following schedule of fire and tornado insurance in force upon the Fair Grounds buildings:

Expires		Premiums Paid	Fire	Tornado
1913	General form	$1,694.35	$ 47,000.00	$ 47,000.00
1913	Hog barn and pavilion	75.00		15,000.00
1913	Farm buildings, house and barn	26.00	2,000.00	2,000.00
1912-13	Horse barns (3 brick sections)	432.50	15,000.00	15,000.00
1912-13	Cattle barns (3 new barns)	267.50	8,500.00	8,500.00
1913	Power house	120.00	4,000.00	4,000.00
1911-12	Agricultural building	375.00	15,000.00	15,000.00
1911	Administration building	475.00	20,000.00	15,000.00
1911	Stock pavilion	540 00	18,000.00	18,000.00
1911	Closet near horse barns	110.00	3,000.00	3,000.00
1911	Producers' building	52.50	1,500.00	1,500.00
1912	Street car entrance	131.26	3,000.00	3,000.00
1912	Brick dining hall	100.00	4,000.00	
1910	Rest cottage	35.00	1,000.00	1,000.00
		$4,434.61	$142,000.00	$148,000.00

After carefully going over the insurance statement as above presented the following action was taken and agreed upon:

1. To reduce to $10,000.00 the insurance on the three sections of the horse barn at the expiration of the first $5,000.00 insurance.

2. To reduce the insurance carried on the Agricultural Building to $10,000.00 at the expiration of the present policies.

3. To place insurance on the Administration Building as follows, when insurance now in force expires, same to cover building and contents: Fire, $20,000.00; tornado $15,000.00. In the event said insurance cannot be placed to cover building and contents, then it is to be placed as follows: Fire, $17,000.00 on building, $3,000.00 on contents. Tornado, $12,000.00 on building, $3,000.00 on contents.

4. To reduce to $15,000.00 insurance on stock pavilion at the expiration of present insurance.

5. To reduce to $1,500.00 insurance on closet near horse barns at the expiration of presnt insurance.

6. Iowa Producers' Building. Do not reinsure at the expiration of present insurance, as same is covered in general form.

7. Do not renew the insurance on Rest Cottage, which expired December 28, 1910.

8. Balance of Insurance left for further consideration, it being understood that many of the old buildings now carried in the general form would be cut out at the expiration of this insurance.

SPECIAL COMMITTEE MEETING.

JANUARY 13-14, 1911.

Committee met with the following members present: Cameron, Ledgerwood, Simpson, Johnston, Curtiss and Pike.

Chairman Cameron stated that the purpose of the meeting was to discuss and determine upon the rules and regulations and classification for the premium list of the 1911 Iowa State Fair and Exposition. The secretary presented the recommendations for changes as submitted by the various superintendents. After careful consideration of each department the following summary was agreed upon:

SUMMARY OF PRIZES FOR 1911.

	Prizes for 1910	Prizes for 1911	Increase	Decrease
Horses	$ 11,772 00	$ 13,457.00	$1,685.00	
Speed	15,600.00	14,750.00		$ 850.00
Cattle	10,009.00	10,587.00	578.00	
Swine	4,490 00	3,882.00	392.00	
Sheep	2,322.00	2,738.00	416.00	
Poultry	1,835.00	1,850.00	15.00	
Agricultural	3,227.00	3,727.00	500.00	
Pantry, kitchen and apiary	838.00	838.00		
Dairy	657.00	657.00		
Horticulture	1,123.00	1,123.00		
Floriculture	926.00	1,279.00	353.00	
Art & Needle Work	2,049.00	2,049.00		
Schools	611.00	611.00		
	$ 54,459.00	$ 57,548.00	$3,939.00	$ 850.00
		54,459.00	850.00	
		$ 3,089.00	$3,089.00	

MEETING OF STATE BOARD OF AGRICULTURE.

JANUARY 23, 1911.

As per call of the president, the board met in the rooms of the Agricultural Department at the State House at one o'clock p. m. On roll call the following members were found to be present:

Governor Carroll, E. W. Stanton, W. B. Barney, P. O. Koto, C. E. Cameron, John Ledgerwood, J. C. Simpson, G. S. Gilbertson, R. S. Johnston, C. W. Phillips, E. M. Reeves, C. F. Curtiss, E. M. Wentworth, E. J. Curtin, F. E. Sheldon, J F. Summers, O. A. Olson and H. L. Pike.

President Cameron informed the board that Secretary Simpson had handed in his resignation as secretary of the State Board of Agriculture, which read as follows:

Des Moines, Iowa, Jan. 23, 1911.

Mr. C. E. Cameron, Pres., Iowa State Board of Agriculture.

Dear Sir.—I herby tender my resignation as Secretary of the State Board of Agriculture, same to become effctive February 1, 1911.

Respectfully,

(Signed) J. C. SIMPSON.

The president informed the board that it was the desire of Mr. Simpson that his resignation be accepted at once. Mr. Curtiss moved that the resignation of Mr. Simpson be accepted and that a committee be appointed to draw up resolutions expressing the regret of the members of the State Board of Agriculture that Mr. Simpson found it necessary to sever his connection with them. The president appointed as such committee Messrs. Curtiss, Wentworth and Barney.

A motion was made and seconded that the president appoint a committee of three to consider applications and the advisability of the board at the present time in electing a secretary to succeed Mr. Simpson. The president appointed as such committee Messrs. Sheldon, Olson and Curtin.

The board took a recess of thirty minutes, after which they again assembled to listen to the report of the special committee on the selection of a secretary. The said committee made a verbal report in words to the following effect: That the committee had met but had received no applications for the position of secretary, and that after careful consideration of the matter they were unanimous in the opinion that Mr. C. E. Cameron would be the proper man for the place and they therefore recommended that the board select Mr. Cameron as secretary for the balance of the year. Mr. Cameron absolutely refused to consider the proposition and further stated that he would decline to serve if elected.

The following motion was then offered by Mr. Curtiss: Moved, that Mr. A. R. Corey be elected acting secretary of the State Board of Agriculture to serve at the pleasure of the board, and that the committee on the selection of a secretary be continued and the president be requested to call a meeting of the board as soon as the committee was ready to report.

On roll call the motion was unanimously adopted.

Upon motion of Mr. Curtiss, which was duly seconded and adopted, the salary of Mr. Corey as acting secretary was fixed at $1,800.00 per year.

Governor Carroll moved that the matter of amending Section 1657-n of the Supplement to the Code with reference to the salary of the secretary of the State Board of Agriculture be referred to the legislative committee of the Board, and that they be instructed to prepare a bill amending said section and present same to the legislature at the earliest possible moment, which motion was duly seconded and unanimously adopted.

The president appointed Messrs. Johnston, and Pike as committee on Per Diem and Mileage.

The following resolutions were offered by the special committee appointed by the president on the resignation of Secretary Simpson. On motion of Mr. Wentworth the resolutions were unanimously adopted and ordered spread upon the records of the board.

Resolved, That the Iowa State Board of Agriculture receives with deepest regret the resignation of Secretary John C. Simpson, who leaves Iowa to enter the service of our sister state of Minnesota in a similar capacity.

Resolved, We cannot permit Secretary Simpson to leave our state or this organization without expressing the obligation we feel for the work performed during the past seventeen years toward the promotion of every Iowa interest, and we point with particular pride to his splendid service in advancing the work of the Iowa State Board of Agriculture and in the upbuilding of the Iowa State Fair.

E. M. WENTWORTH,
W. B. BARNEY,
C. F. CURTISS,
Committee.

The committee on Per Diem and mileage appointed by the president filed their report, which was adopted.

EXECUTIVE COMMITTEE MEETING.

FEBRUARY 1-3, 1911.

Members present, Cameron, Ledgerwood, Corey, and retiring member Secretary Simpson.

Minutes of the executive committee on Dec. 20-21, Jan. 6 and Jan. 13-14, also minutes of committee meeting to revise premium list on Jan. 13-14, were read and approved.

Members Cameron, Ledgerwood and Simpson appeared before both the House and Senate committees on agriculture and explained to the committees the changes asked for in Section 1657-n, Supplement to the Code, 1907, as embodied in the following bill:

Senate File No. 143, by Allen of Pocahontas; House File No. 143, by Cunningham; Agriculture.

A BILL

For an Act to amend Section Sixteen Hundred and Fifty-seven-N (1657-N), Supplement to the Code, 1907, and to enact a substitute therefor relating to the office of the Department of Agriculture and the salary of secretary and his assistants.

Be It Enacted by the General Assembly of the State of Iowa:

Section 1. That section sixteen hundred and fifty-seven-n (1657-n), Supplement to the Code, 1907, be repealed and the following enacted in lieu thereof:

The office of the department of agriculture shall be in rooms numbers eleven (11) and twelve (12) of the capitol building; the said office shall be entitled to such supplies, stationery, postage and express as may be required, which shall be furnished by the executive council in the same manner as other officers are supplied. The secretary shall receive as salary such compensation as may be fixed by the state board of agriculture from the funds derived from the state fair.

Sec. 2. This act being deemed of immediate importance shall take effect and be in force from and after its publication in the Register and Leader and Des Moines Capital, newspapers published in the city of Des Moines, Iowa.

In accordance with the recommendations and instructions of the board at their meeting on September 30, 1910, the committee formulated and had introduced in the House and the Senate the following bill asking for an appropriation for additional ground and improvements on the Iowa State Fair and Exposition Grounds:

Senate File No. 169, by Brown; House File No. 221, by Brown; Appropriations.

A BILL

For an Act making appropriations for additional improvements and land at the Iowa State Fair and Exposition Grounds.

Be It Enacted by the General Assembly of the State of Iowa:

Section 1. That there is hereby appropriated to the Iowa Department of Agriculture, out of any money in the state treasury not otherwise appropriated, the sum of one hundred and seventy thousand dollars ($170,000.00), for the following purposes:

For the purchase of additional land and lots..............	$ 20,000.00
For building for exhibits of farm implements, machinery, vehicles, etc.	80,000.00
For additional sections to permanent horse barns.............	25,000.00

For additional sections to permanent cattle barn	15,000.00
For sanitary toilets	10,000.00
For sheep barn	20,000.00
Total	$170,000.00

Sec. 2. All moneys appropriated by this act shall be drawn from the state treasury upon warrants issued by the state auditor upon the order of the state board of agriculture.

Sec. 3. This act being deemed of immediate importance, shall take effect and be in force from and after its publication in the Register and Leader and Des Moines Capital, newspapers published in Des Moines, Iowa.

EXECUTIVE COMMITTEE MEETING.

FEBRUARY 14-17, 1911.

Committee met with all members present. Architect Smith presented sketches for the permanent buildings as contemplated in the appropriation bill before the legislature. The committee. with member C. F. Curtiss, went over the sketches carefully and made such changes as deemed advisable.

Secretary was instructed to enter into contract with the Zero Ice Company to furnish ice for the 1911 fair, terms of contract to be the same as that of 1910.

Secretary was authorized to enter into contract with some responsible party or parties for publishing the official catalog, requiring a guarantee or bond that the same will be published in an edition of 5,000 or more copies; 500 to be delivered to the department of agriculture free of charge on Friday, August 25, 1911. The consideration for publishing the catalog to be the advertising privilege and receipts from sales at 10 cents each.

EXECUTIVE COMMITTEE MEETING.

FEBRUARY 20-24, 1911.

Committee met with all members present. The committee, with member C. F. Curtiss, went over the final report of O. C. Simonds pertaining to and explaining the permanent plans of the Iowa

State Fair Grounds. The plans and report being satisfactory to the committee, secretary was instructed to issue warrant to Mr. Simonds for $1,000, same being balance due on contract. The following is a copy of Mr. Simonds' report and should be studied in connection with the preliminary report found on pages 309-313 of the Iowa Year Book of Agriculture for 1910.

Chicago, February 16, 1911.

State Board of Agriculture of Iowa, Des Moines, Iowa.

Gentlemen: In our letter, dated August 29, 1910, to the secretary of your Board, the problems which we were to consider were stated as follows:

"First, to arrange, on a given piece of land, buildings, for the purpose of protecting and showing the advantage of various exhibits; second, to make these buildings easily accessible from the various entrances and from each other, by means of roads and walks; third, to make an arrangement of trees, bushes and flowers which shall enhance the beauty of the buildings and of the grounds themselves; fourth, to make the woods and hills available as a camping place, as a place for pleasure driving, as a place for exhibiting the beautiful natural scenery in the vicinity of Des Moines, and, at the same time, to preserve our native forest growth so as to show specimens of all of Iowa's native plants and keep forever an area of native woodland; fifth, to locate an electric railway, making a circuit of the grounds for passenger traffic."

In studying these problems, we are to take as a basis, the land which has been secured by the state for the fair grounds. The shape of this land and its general topography are indicated on plats which were sent you, the land being a little over a mile in length and less than half a mile in width, with a variation in level of about one hundred and sixty feet. Naturally, the exhibition buildings should be placed on the western portion of the grounds, which is comparatively level and is also nearest the city. As certain permanent buildings had been erected, it was taken for granted that live stock should be shown on the level area just north of Dean Avenue and opposite the Rock Island switching tracks. In this area the buildings for horses were to occupy the northwestern corner, the buildings for cattle, the northeastern corner, for swine, the southeastern corner and for sheep, the southwestern corner. Permanent buildings had been built or commended for the first three groups, so the only question remaining was in regard to the sheep. The space left for them seemed rather small, but there was a possibility of its being increased by the purchase of additional land, which we strongly recommended.

In our final plan, the buildings for farm machinery and transportation exchanged the places that were shown for them on our preliminary plan. Some other changes were also made, the cement industries being placed on the plan in the present stock pavilion, while the space for exhibiting and judging stock was to be provided for in the new building, somewhat larger than the present one. The final plans show this building opposite the Administration building, just north of the building for horses. The place for amusements was also changed to an area east of the race track. The final plans, which you now have, were the result of careful consideration on the part of the secretary and members of your Board as well as ourselves. The buildings, as shown, provide for the future needs as far as they can be anticipated at the present time. They are conveniently arranged with regard to each other and with regard to the entrances and stations along the proposed electric line. Those interested in stock will find the buildings for various domestic animals near each other. The Horticultural and Agricultural buildings are near neighbors. The machinery occupies another part of the grounds, the parade grounds, half mile track and amusements another portion, while the Manufacturers' and Liberal Arts building and Transportation building are conveniently near. The present Administration building is centrally located with regard to all the exhibits and is in the center of an open space which is parklike in character. We hope that this open space, as shown on plans, may not be encroached upon. It is needed to give a proper effect to the various buildings which surround it, and as a resting place for the visitors at the time of a fair.

We will again call attention to the fact that the drives, as shown, are designed with easy grades and make all parts of the grounds accessible. The central important drives, leading from the two entrances, are retained as at present used. Some steep drives and some that would interfere with proposed buildings have been omitted, but their places are taken by other drives that are equally convenient. We have proposed a slight change in the surface drainage of a portion of the grounds diverting the water course, which now follows Grand avenue, to the area included by the race track, at the western portion of which we suggest a small lake. In the wooded area, the water from rains and melting snow can generally be taken care of by surface flow through natural valleys. Wherever the natural flow, however, would cross a drive, a provision should be made for its passage underneath, and an underground conduit should be made from the lower end of the principal valley to the pond shown north of the Transportation building, the line of this conduit following the grades that would be most economical when depth of cut and horizontal distances are considered. We recommend that the wooded area now occupying most of the eastern portion of the grounds be retained as a piece of natural forest. Our country is comparatively new, but, as time goes on, a piece of natural original forest will become an exhibit of continually increasing value and interest. You are fortunate in being able to preserve such an exhibit so near the capitol and metropolis of Iowa. It should become an arboretum of especial interest to those who wish to learn about the trees suitable for your state.

Planting should be done about the buildings to give them a proper setting, and serve as an example for visitors to follow and trees should shade the various walks and drives, but be arranged in such a way as to preserve ample open areas and attractive vistas. After visiting the fair, there are a few things we would like to mention, not referred to in the report to the secretary which has already been mentioned. The appearance of the grounds would be greatly improved if all the wires could be placed underground. This has been done along the streets of many cities and even on some private grounds and also along lines connecting distant cities. The poles necessary for overhead wires, with their cross arms, the injuries to trees some times caused by wires, and the wires themselves are all detrimental to the appearance of the fair grounds. You have an opportunity to set a good example by putting the wires out of sight.

The disposal of garbage and sewage is at present unsatisfactory. There should be some method of disposing of the melon rinds and other refuse from the restaurants and dining rooms which would not allow any portion of the grounds to become offensive. At present, refuse is piled in some opening in the woods or some depression in the ground where, subsequently, the pile must be removed at an additional expense. Possibly that portion of the refuse material, which cannot be burned, would be of some value to neighboring farmers, so that they would be willing to take it either without expense or for a small consideration and thus preserve the grounds from anything unsightly or offensive. We would suggest that the question of disposing of sewage be studied with the assistance of some sanitary engineer of recognized ability.

We would suggest that tents be prohibited from a definite space along each side of the drives that extend through the forest by establishing some line corresponding to building lines along residence streets. Such lines might be anywhere from fifty to one hundred feet from the edge of the roadway. With the additional land, which you now have, a wider range might occupied by those who camp on the grounds during fair time.

We desire this letter to be considered as supplementary to a former letter which has already been mentioned. The state fair has been conducted in such a way as to be of educational value to the people of the state. Those interested in stock get information which will be of value to them on their farms. Those interested in the raising of corn, alfalfa and other farm crops either get information of value or are stimulated, by what they see, to greater efforts. The exhibits of farm machinery, cement industries, manufactured articles and all the various displays to be found at the fair must be of decided advantage to the people of the state. We hope that the grounds themselves will become an exhibit of equal value on account of their beauty and convenience and an exhibit not confined to the week or ten days of the fair, but extending throughout the year, showing all the various trees and shrubs that are hardy in the state of Iowa and showing, as well, beautiful pictures, by the proper relation of open spaces to the various groups of woody growth. As the fair cntinues for only about ten days, perhaps you would not be justified in having all of the herbaceous plants, as these would call for an expenditure which might not add to your receipts at the time of the fair, but, you could, without sacrifice, give the park authorities an opportunity to supplement in this way your own effects in creating and preserving natural beauty. In this way the grounds might continually show, during the growing season, attractive and harmonious effects of flowers. With the co-operation of the city of Des Moines, through its park commissiners, the state fair grounds might be of decided value and interest during the entire year without causing any additional expense to the people of the state. Toronto sets a good example in that direction.

If, in your study of the plans and their application to the grounds, there are any questions which occur to you that have not been answered, either verbally or in writing, we hope you will be free to write regarding them, either directly or through your secretary.

Yours sincerely,

O. C. SIMONDS & CO.,
Per O. C. Simonds.

The matter of attractions for the coming state fair was discussed and it was decided to meet with the representatives of the western fairs in Chicago on March 20-21 for the purpose of considering free attractions and night shows.

MEETING OF ANIMAL HUSBANDRY COMMITTEE.

FEBRUARY 22, 1911.

Committee met with members Curtiss, Pike and Koto present, also members of the executive committee and Senator Ames.

The purpose of the meeting was to consider Senate file No. 129, by Ames, relative to the state enrollment of stallions. The bill was considered section by section and several changes made in the original bill.

SPECIAL COMMITTEE MEETING.

CHICAGO, MARCH 20-21, 1911.

In accordance with the arrangements made, the committee, with member C. F. Curtiss, and the Superintendent of Concessions and privileges, W. C. Brown, met at the Auditorium Hotel, Chicago, with representatives of the following named fairs: Minnesota, Indiana, Wisconsin, Nebraska, South Dakota and the Sioux City Interstate fair. The purpose of this meeting was to meet representatives of night shows, carnival companies, attractions, people and booking agencies and to receive propositions from them relative to furnishing free attractions, night shows, and special attraction features for the night show at the amphitheater, ec., for the 1911 fair. The following contracts were entered into:

Western Vaudeville Managers' Ass'n for Patrick Conway's Band of New York City; F. M. Barnes, Inc., for six professional vaudeville acts for amphitheater and pavilion shows; Allie T. Wooster, Portage, Wis., for relay races, Roman standing, tandem and chariot races; Thos. R. Johnstone for sheep dog tricks, to be brought from Scotland.

EXECUTIVE COMMITTEE MEETING.

MARCH 27-30, 1911.

Committee met with all members present. This meeting was called to negotiate with the Des Moines Electric Company and ascertain if they were in a position to furnish the Iowa State Fair Grounds with current for power and lighting purposes.

The committee met with Mr. Sawyer, manager for the Des Moines Electric Company, and were informed that the company now has ample power to furnish the fair grounds with all the current desired, provided a satisfactory contract could be made that would warrant the company in building a high tension line to the grounds. With this in view Mr. Sawyer agreed to submit the committee a proposition in writing.

The appropriation bill for fair grounds improvements having passed both branches of the legislature, the president instructed the secretary to notify the members of the board of a meeting of the board at ten o'clock a. m., Tuesday, April 4th, for the purpose of locating the machinery building, approving plans and authorizing the executive committee to advertise for bids and let contracts for the proposed improvements.

MEETING OF THE STATE BOARD OF AGRICULTURE

APRIL 4, 1911.

Board convened at ten o'clock a. m. as per call of the president. Upon roll call the following members were found to be present: Governor Carroll, W. B. Barney, C. E. Cameron, John

Ledgerwood, A. R. Corey, G. S. Gilbertson, R. S. Johnston, C. W. Phillips, E. M. Reeves, E. J. Curtin, E. M. Wentworth, T. C. Legge, C. F. Curtiss, F. E. Sheldon, O. A. Olson and H. L. Pike.

Minutes of the board meeting of January 23rd were read and approved.

The president informed the board that the object of the meeting was to consider matters pertaining to the construction of the machinery building, sanitary closets, and the purchase of additional land, as provided for by an appropriation of the Thirty-fourth General Assembly.

The bill as passed read as follows:

A BILL

For an act making appropriation for additional improvements and land at the Iowa State Fair and Exposition Grounds.

Be It Enacted by the General Assembly of the State of Iowa:

Section 1. There is hereby appropriated to the Iowa Department of Agriculture, out of any money in the state treasury not otherwise appropriated, the sum of eighty-five thousand dollars ($85,000.00) for the following purposes:

For the purchase of additional land and lots	$ 12,000.00
For building for exhibits of farm implements, machinery, vehicles, etc.	65,000.00
For sanitary toilets	8,000.00
Total	$ 85,000.00

Sec. 2. In allotting space to exhibitors in the building erected with this appropriation, the State Board of Agriculture, under such reasonable rules as it may prescribe, shall give preference to Iowa manufacturers.

Sec. 3. All moneys appropriated by this act shall be drawn from the state treasurer upon warrants issued by the state auditor upon order of the State Board of Agriculture.

Sec. 4. This act being deemed of immediate importance, shall take effect and be in force from and after its publication in the Register and Leader and Des Moines Capital, newspapers published in Des Moines, Iowa.

At this time Architect O. O. Smith was called before the board and explained in detail the plans for the machinery building and for the sanitary closets under each end of the amphitheater.

On motion the board adjourned until 1:30 p. m.

AFTERNOON SESSION.

The board reconvened at 1:30 p. m. with members present as at the morning session, also Dr. P. O. Koto.

Mr. Curtiss stated that the U. S. Department of Agriculture had withdrawn recognition for all stud books associations and that by an act of the Thirty-fourth General Assembly it became the duty of the Board of Agriculture to approve a list of stud books to be recognized by the Iowa Department of Agriculture in the work of the Division of Horse Breeding. Mr. Curtiss moved that the board approve the list of stud books recognized by the National Society of Record Associations. Motion seconded by Mr. Curtin and unanimously adopted.

The president announced that the committee appointed to receive applications for the position of secretary of the board were ready to make their report. The chairman of the committee made the following verbal report: "Two members as a majority of the committee, are of the opinion that there should be no changes in the present conditions of the secretaryship until the annual meeting in December. The other member of the committee is of the opinion that we should proceed to the election of a secretary at once."

The question was on the adoption of the report of a majority of the committee. The ballot resulted as follows: To sustain the report, 10; to reject the report, 7. Therefore further consideration of the secretaryship was postponed until the annual meeting of the board in December.

Mr. Ledgerwood tendered his resignation as vice president of the State Board of Agriculture, which read as follows:

Hon. C. E. Cameron, President,
State Board of Agriculture.

Dear Sir: I hereby tender my resignation as vice-president of the Iowa State Board of Agriculture.

Very respectfully,
JOHN LEDGERWOOD.

On motion the resignation of Mr. Ledgerwood was placed on file to be considered later.

On motion the board adjourned to the fair grounds to look over the location for the machinery building and the sanitary closets.

At five o'clock the board reconvened in the office of the Department of Agriculture, president Cameron in the chair.

Mr. Curtiss moved that all exhibition space in all of the buildings be sold at the established rates in said buildings, provided. however, the executive committee may waive charge for space for special exhibits that might be considered an attraction, or an exhibit that has special educational features. Motion seconded by Mr. Legoe and unanimously adopted.

Mr. Curtiss moved that further consideration and arrangements for the night show in front of the amphitheater be referred to the executive committee with power to act. Motion seconded and unanimously adopted.

Mr. Wentworth moved that the executive committee be authorized to wreck the Iowa building and to take such action in regard to wrecking the private machinery buildings as they deemed advisable. Motion seconded by Mr. Olson and unanimously adopted.

Mr. Wentworth moved that should the executive committee be successful in closing a contract with the Des Moines Electric Company to furnish current for power and light upon the Iowa State Fair Grounds, that they be authorized to dispose of the boilers, engines, dynamos, arc lights and such other electrical apparatus as would be of no use. Motion seconded by Johnston and unanimously adopted.

The following resolution was offered by Mr. Johnston and adopted:

Resolved, That the Board approve the plans and specifications for the steel constructed portion of the machinery building and the plans for sanitary closets to be installed under the amphitheater and in the machinery building, submitted by architect O. O. Smith, and be it further

Resolved, That the location of the machinery building as shown by the permanent ground plans on file in the office as agreed upon by the Board in their visit to the grounds, be approved and be it further

Resolved, That the executive committee be and they are hereby authorized and instructed to advertise for bids as per plans and specifications submitted and in the manner agreed upon by the Board for the erection of the north one-half or such portion of the machinery building as may be possible to build from the appropriation of $65,000.00 and the sanitary closets provided for in House File No. 221, a bill appropriating funds for the purpose, and be it further

Resolved, That the executive committee be, and they are hereby authorized to award contracts for the above work to the lowest responsible and advantageous bidder or bidders, limiting the total amount of cost, including architect and engineer fees, to the appropriation of $65,000.00 for a machinery building and $8,000.00 for sanitary closets made for these purposes, and be it further

Resolved, That the executive committee be and they are hereby authorized to purchase in the name of the State of Iowa as much additional land, and in the order agreed upon by the board, to the southwest portion of the grounds as may be possible from the state appropriation of $12,000.00, and be it further

Resolved, That the committee be authorized to purchase this land through an agent and to enter into condemnation proceedings if it becomes necessary.

Resolved, That the appropriation as provided in House File 221 shall be drawn upon orders signed by the president and secretary of the state board of agriculture at such times and in such amounts as may be needed in the payment of the work specified.

On motion the resignation of Mr. Ledgerwood as vice president was accepted by the board.

The president announced that the next order of business would be the election of a vice president to fill the vacancy made by the resignation of Mr. Ledgerwood. On an informal ballot the following candidates for the office were named: Pike, Olson, Johnston, Curtiss, Wentworth and Reeves. It was then agreed to take a formal ballot and the low men to drop out until one of the candidates was elected. Mr. Olson having received a majority of all votes cast on the first ballot was declared elected vice president to fill the vacancy.

Mr. Olson presented his resignation as member of the State Board of Agriculture from the tenth congressional district, which read as follows:

C. E. Cameron, President, April 4, 1911.
Iowa Department of Agriculture,
Des Moines, Iowa.

Dear Sir: I hereby tender my resignation as member of the Iowa State Board of Agriculture from the Tenth Congressional District.

Respectfully yours,

O. A. OLSON.

On motion the resignation was accepted.

The president announced that nominations were in order for a member of the State Board of Agriculture from the tenth congressional district to fill the vacancy caused by the resignation of Mr. Olson. Mr. J. P. Mullen of Pocahontas county and Mr. C. J. Martin of Greene county were nominated, Mr. Mullen having received a majority of votes cast on the first ballot, on motion his election was made unanimous.

The executive committee recommended that Mr. Mullen be made superintendent of the implement and machinery department. On motion the board approved the recommendation of the committee.

The committee on per diem and mileage filed a report, which was on motion adopted.

On motion the board adjourned to meet at the call of the president.

EXECUTIVE COMMITTEE MEETING.

April 5, 1911.

Committee met with members Cameron, Olson and Corey present.

Committee authorized the superintendent of grounds to purchase posts and fencing to rebuild 2100 ft. of fence on the north side of the grounds extending from present fence east of track to east fence in camp grounds. The committee authorized the superintendent of grounds to wreck the old Iowa building and to sell such lumber as could not be made use of. The secretary presented an outline for the advertising budget for the 1911 fair, amounting approximately to $10,000.00, and the same was approved.

EXECUTIVE COMMITTEE MEETING.

May 2-6, 1911.

Wednesday, May 3, 1911.

Committee met with all members present, also members Curtiss, Mullen and Phillips. The purpose of this meeting was to open bids on the machinery building, to award contracts for same, and to dispose of miscellaneous matters brought to the attention of the committee.

The bond of the secretary for $10,000.00 and that of the treasurer for $50,000.00 were approved by the president and vice president and placed on file.

A committee representing the National French Draft Horse Association, composed of President J. W. Craft, Vice President Isaiah Dillon, and the assistant secretary and one other member of the association, appeared before the executive committee and C. F. Curtiss, superintendent of the horse department, and asked to have the class continued for Percheron and French Draft horses. These gentlemen were informed that the Percheron breeders had made a request for a separate classification and upon the showing made this was granted. They were also informed that the executive committee was ready to consider their application for a separate classification for French Draft horses. As no request was made for a separate classification it was decided to let the class remain as published in the 1911 premium list.

Secretary was instructed to enter into contract with Milton S. Mooney for his electric tandem for a feature at the night show in the stock pavilion, the consideration to be $750.00 provided Iowa and Minnesota State Fairs book the act; should Wisconsin also book this act the amount to be $700.00.

The oath of office was administered by notary H. L. Bosquet to John P. Mullen of Fonda, who was duly elected a member of the board from the Tenth District on April 4th.

Thursday, May 4.

Committee met with all members present, also members Curtiss, Phillips and Mullen and architect O. O. Smith.

The time set for receiving proposals for the construction of the machinery building having arrived, the committee preceeded to open bids, which were as follows:

PROPOSITION NO. "O."

Building complete as per specifications. Includes steel, general contract, culvert and grading. Deduction for leaving off portion back to center line of building.

	Bid.	Deduction
J. B. McGorrisk, Des Moines, Iowa	$90,000.00	$4,300.00
J. C. Mardis Co., Des Moines, Iowa	92,400.00	4,100.00
Des Moines Bridge & Iron Works, Des Moines	83,560.00	3,960.00
W. H. Brereton, Des Moines, Iowa	*79,442.00	6,287.00

*Does not include grading.

PROPOSITION NO. 1.

For steel work complete as per specifications. Deduction for leaving off portion back to center line of building.

	Bid.	Deduction
Modern Steel Structural Co., Waukesha, Wis.	$33,850.	$3,500.00
Des Moines Bridge & Iron Works, Des Moines	34,000 00	2,400.00
The Massillion Bridge & Structural Co., Masillion, O.	31,370.00	1,870.00
J. C. Mardis Co., Des Moines, Iowa	35,000.00	2,200.00
J. B. McGorrisk, Des Moines, Iowa	34,000.00	2,400.00

PROPOSITION NO. 4.

General contract not including steel, culvert or grading.

	Bid.	Deduction
J. B. McGorrisk, Des Moines, Iowa	$43,375.00	
J. E. Lovejoy, Des Moines, Iowa	33,713.00	
J. C. Mardis, Des Moines, Iowa	45,872.00	
C. W. Ennis, Toledo, Iowa	47,000.00	

PROPOSITION NO. 2.

For grading per yard; one haul not to exceed 500 feet, the other not to exceed 2,000 feet.

	500 ft. haul	2060 ft. haul
J. B. McGorrisk, Des Moines, Iowa	$.26	$.41
J. C. Mardis Co., Des Moines, Iowa	.26	.44
C. W. Ennis, Toledo, Iowa	.22	.33
Barnes Bros., Des Moines, Iowa	.22½	.389
Frank Cram, Des Moines, Iowa	.28	.45
Wood & Connett, Des Moines, Iowa	.35	.40
F. F. Balzer, Des Moines, Iowa	.37½	.47½
James Horrabin, Des Moines, Iowa	.24	.29
J. L. Hansman, Des Moines, Iowa	.37	.57

PROPOSITION NO. 3.

For 276 feet, 5x12 reinforced concrete culvert.

J. B. McGorrisk, Des Moines, Iowa	$5,268.00
J. C. Mardis Co., Des Moines, Iowa	5,800.00
C. W. Ennis, Toledo, Iowa.	3,200.00
W. H. Brereton, Des Moines, Iowa	4,250.00
James Horrabin, Des Moines, Iowa	3,450.00
J. W. Turner Improvement Co., Des Moines, Iowa	*4,575.00
T. C. Casselberry, Des Moines, Iowa	4,260.00
Christie Construction Co., Des Moines, Iowa	3,690.00
J. L. Hansman, Des Moines, Iowa	5,240.00
V. C. Dobson, Des Moines, Iowa	5,437.00
N. M. Stark, Des Moines, Iowa	3,475.00

*For 250 feet.

After a careful consideration of the bids it was deemed advisable to postpone awarding contracts until satisfactory evidence was produced that the Massillon Bridge and Structural Company was in a position to carry out the contract within the specified time should they be awarded same.

FRIDAY, MAY 5, 1911.

Committee met with all members present.

Mr. C. H. Duffield, representing the Pain Pyrotechnic Company of Chicago, brought before the committee their proposition for the night show at the amphitheater—Pain's New Pompeii, with special features consisting of six vaudeville specialties, special ballet of forty girls, and chariot races. The committee authorized the secretary to sign contract for the above show for five nights, commencing Saturday, August 26th, and closing Thursday, August 31st, the consideration to be $6,500.00 for the five nights.

Friday afternoon was spent at the grounds considering necessary improvements and repairs to be made under the supervision of the superintendent of grounds prior to the 1911 fair.

The following repairs and improvements were agreed upon:

Order 100 lawn seats, same as those bought in 1910, to cost $1.90 each.

Paint roof of stock pavilion.

Repair gutters on stock pavilion.

Paint seats in grand stand.

Build addition to Exposition Building, 30x50 ft., for housing school exhibits.

Raise band stand in front of amphitheater.

Put in new band stand in south end of stock pavilion.

Rearrange seating in present boxes in stock pavilion so the back seats will be elevated.

Put in band stand in center of Agricultural Building with space for miniature farm underneath, size to be about 24 ft. square.

SATURDAY, MAY 6, 1911.

Committee met with all members present, also architect O. O. Smith.

Careful consideration was given all bids on file, also references furnished by the Massillon Bridge and Structural Company who were the low bidders on the steel proposal.

It was decided to let the contract for erection of steel in accordance with proposal No. 1 to the Massillon Bridge and Structural Company on their bid of $31,370.00, after deducting $300.00 for omitting one coat of paint at shops, making their contract for $31,070.00. Contract to this effect was drawn up and signed. Surety bond was executed by The American Surety Company of New York for $12,500.00 as a guaranty that the work will be carried out as per contract.

Mr. J. E. Lovejoy being the low bidder on general contract as per proposal No. 4 was called and asked to make deductions for staining ceiling and rafters and for changing the 2x6 rafters from 18 inches on center to 24 inches on center. Mr. Lovejoy submitted the following:

Deduct from my bid of		$33,713.00
For staining ceiling and rafters	$1,632.00	
For change in spacing rafters	625.00	2,257.00
		$31,456.00

Contract for this amount was drawn up and signed, guaranteed by a surety bond executed by the Title Guaranty & Surety Co. for $12,600.00.

C. W. Ennis, of Toledo, Iowa, who was the lowest bidder on contract for culvert, informed the committee he did not care for this contract if he did not secure other contracts in connection with the work on the building, and desired that it be taken off his hands at his bid or given to the next lowest bidder.

The matter of letting contract for culvert and grading was left until Mr. Lovejoy could ascertain whether he desired to put in the culvert for $3,200.00 along with his contract, the amount being the same as Mr. Ennis' proposal.

The committee authorized Mr. W. H. Harwood to act as agent to purchase additional land to the southeast of the Fair Grounds.

the same to be purchased and held in trust in the name of the Inter-State Realty Company and at the proper time deeded to the State of Iowa.

EXECUTIVE COMMITTEE MEETING.

MAY 19-20, 1911.

Committee met with all members present.

The secretary reported that Mr. Lovejoy had made it known that he did not desire the contract for putting in the culvert at the bid of $3200.00 made by Mr. Ennis. James Horrabin, who was lowest bidder on the grading signed contracts and furnished the required bond for putting in the culvert at $3200.00 complete and for making the fill at 24 cents for short haul and 29 cents for long haul in accordance with the proposal and specifications, the extent of the fill to be left to the discretion of the committee.

The committee visited the grounds to ascertain the progress being made with the work on culvert and foundations. It was deemed advisable to extend the culvert across Capitol Avenue and use same for a bridge. Mr. Horrabin agreed to do this work at the same cost per foot as he was to receive for the culvert work, viz. $11.60 per foot, the extension to be about 26 feet. Mr. Horrabin was ordered to do this work at this figure.

The committee ordered the Capitol Avenue entrance closed and three turn-stiles put in at Grand Avenue with overhead protection from rain and sun.

The secretary presented proposition from Iowa bands and orchestras; the six day engagement to commence August 26th and continue to Friday, September 1st, inclusive; the five day engagement to commence Monday, August 28th, and close Friday, September 1st. The committee decided to let the six day engagement to the Fifty-fourth Regiment Band of Ottumwa, the five day engagement to the Storm Lake Concert Band, and the orchestra engagement to Graham's orchestra of Des Moines; the secretary was authorized to execute contracts.

The committee granted the request of Fire Chief Wm. Burnett for use of the Fair Grounds on July 26, 27 and 28 for the purpose of holding the State Firemen's Tournament, the rental to be $100.00 per day.

The committee approved the contract drawn for the Greater Des Moines Driving Club for use of the fair grounds on June 13, 14 and 15, the rental to be 50 per cent of the net receipts, bonds to the extent of $2000.00 to be executed to guarantee payment of all purses, expenses, etc.

The secretary was authorized to attend the aviation meet at Lincoln, Neb., given by the Curtiss Company, and to confer with W. R. Mellor, Secretary of the Nebraska State Fair, in regard to contracts for aeroplane attractions.

EXECUTIVE COMMITTEE MEETING.

JUNE 1-3, 1911.

Committee met with all members present.

The secretary informed the committee that the Ottumwa Band had returned contract for engagement unsigned with the statement that they were unable to fulfill the engagement on account of the company going into Iowa National Guards camp on the dates of the Fair.

The secretary was authorized to contract with the 56th Regiment Band of Fort Dodge to fill this engagement.

In accordance with a resolution of the Board the following private buildings on the Fair Grounds were condemned and the secretary instructed to notify owners that these buildings must be removed on or before July 1st:

John Deere Plow Company building.
Globe Machinery & Supply Company building.
Janesville Machinery Company building.
Ohio Cultivator Company building.
S. G. Gay building.
D. M. Sechler Carriage Company building.
Shaver Carriage Company building.
Northwestern Manufacturing Company building.
Wilson Moline Buggy Company building.
Fuller & Johnson Manufacturing Company building.
Capital City Carriage Company building.
Building owned by Department of Agriculture.

The architect was instructed to prepare plans and ask for bids on closets in each end of the amphitheater, in the northeast and northwest corners of the machinery building, and in two booths on the east side of the stock pavilion.

EXECUTIVE COMMITTEE MEETING.

JUNE 13-16, 1911.

Committee met with all members present.

The committee, with W. R. Mellor, Secretary of the Nebraska State Fair, considered propositions from various aeroplane people for daily flights at the Iowa and Nebraska fairs. Having gone over the propositions carefully, they decided to contract for two of Wright Bros. machines with two aviators, for the sum of $5,000.00 for each fair.

The committee decided to designate the various days of the 1911 fair as follows:

Thursday, August 24th, Preparation Day.
Friday, August 25th, Preparation Day.
Saturday, August 26th, Childrens' Day.
Sunday, August 27th, Music Day.
Monday, August 28th, Des Moines Day.
Tuesday, August 29th, Soldiers' Day.
Wednesday, August 30th, State Day.
Thursday, August 31st, Old Settlers' Day.
Friday, September 1st, Parade Day.

The Des Moines Ad Men's Club was granted the use of the fair grounds for a Fourth of July celebration at the usual rate ($100.00 per day), provided they abandoned the plan to put on a head-on collision between two engines; the grounds, buildings, etc., to be left in the same condition as when turned over to the club.

The time having arrived to open bids on plumbing to be installed at the fair grounds, the committee, with architect Smith, proceeded to open bids, which were as follows:

Globe Plumbing & Heating Company, Des Moines:	
Wolf's closets, painted	$5,700.00
Wolf's closets, white enameled	6,114.00
L. M. Rumsey Mfg. Co., closets, painted	5,200.00
L. M. Rumsey Mfg. Co., closets, white enameled	5,614.00
Wallace & Linnan, Des Moines:	
Wolf's closets, white enameled	$6,680.00
A. H. Walker Co., Des Moines:	
Standard or Rumsey's closets, painted	$5,427.00
Standard or Rumsey's closets, white enameled	5,752.00
Wolf's closets, painted	5,927.00
Wolf's closets, white enameled	6,327.00

Pray & Comerford, Des Moines:	
L. M. Rumsey Mfg. Co., closets, painted	$5,134.00
L. M. Rumsey Mfg. Co., white enameled	5,459.50
Wolf's closets, white enameled	5,684.00
Des Moines Plumbing & Heating Co., Des Moines:	
Wolf's closets, white enameled	5,750.00

The committee decided to use Wolf's white enamel closets throughout and awarded contract to Pray & Comerford for $5,684.00, they having the lowest bid on both Wolf's and Rumsey Mfg. Co. closets. The above firm signed contract and furnished bond in the sum of $2,280,00 to guarantee carrying out the contract according to plans and specifications.

The secretary was authorized to let contract for alterations and brick work on closets under each end of the amphitheater in accordance with estimate of architect Smith.

EXECUTIVE COMMITTEE MEETING.

JUNE 29-30, 1911.

The Admen's Club, who had arranged for the use of the fair grounds for a Fourth of July celebration, were informed that on account of the extremely dry condition of the grounds it would be necessary for them to have the city fire department station a hose wagon and men at the fair grounds during that day to insure better fire protection.

It was deemed advisable to put Grand Avenue to grade at this time, from bridge to gate, and the superintendent of grounds was instructed to have grade stakes set and to have James Horrabin make the cut and use the dirt to fill the machinery building.

The Dempster Manufacturing Company was notified to remove three wind mill towers located north of the electric light plant.

The following bids were received on work necessary to install closets under each end of the amphitheater. The work consisted of brick walls around closet room, cement floors, etc., as per plans and specifications:

W. H. Brereton, Des Moines, Iowa	$2,499.00
J. E. Lovejoy, Des Moines, Iowa	2,461.75

Contract was let to the low bidder, Mr. Lovejoy, for the above amount.

EXECUTIVE COMMITTEE MEETING.

JULY 9-10, 1911.

The committee met with all members present, also Mr. Paul B. Sawyer, manager of the Des Moines Electric Company.

The purpose of the meeting was to go over the contract as submitted by the legal department of the above company, having agreed upon the principal points at the last meeting. The contract was read and discussed, section by section, and a few changes made. The secretary was authorized to sign the re-draft after comparing it with the contract agreed to.

The secretary was also authorized to co-operate with Mr. Sawyer for the purchase of the three 150 K. W., O. I. S. C. transformers to be installed in the fair grounds station for the purpose of stepping current down from 6600 volts to 2300 volts, and to purchase other small transformers and lighting equipment as recommended by Mr. Sawyer for present needs.

The committee granted the Shaver Carriage Company of Des Moines the privilege of putting up a private building on the fair grounds on the first space west of the ditch, the building to be 40x100 feet and built according to plans and specifications submitted by the company and approved by architect Smith.

The next space west of the Shaver Carriage Company's plot with 100 feet frontage was set aside for a building to be erected by the International Harvester Company.

The secretary was instructed to purchase a car load of tan bark for use in the stock pavilion, also some saw dust for the agricultural and exposition buildings.

IN VACATION.

JULY 12, 1911.

Secretary signed contract with the Des Moines Electric Company to furnish light and power for the fair grounds as agreed upon by the executive committee on July 9th.

JULY 13, 1911.

Secretary placed an order for transformers and other equipment, as per instructions of the executive committee, with the General Electric Company, through P. B. Sawyer, Manager of the Des Moines Electric Co.,

EXECUTIVE COMMITTEE MEETING.

JULY 22-27, 1911.

Committee met with all members present.

It was agreed that space should be provided for an exhibit by the U. S. Navy Department; also space for an exhibit of the State Fish and Game Department.

The secretary was instructed to write J. Alex Sloan to put in writing his proposition for putting on exhibition automobile races by Ray Harroun and others and to exhibit moving pictures of the 500 mile automobile race at Indianapolis on July 4th.

The committee in charge of Old Settlers' Day presented a proposition to admit free all old settlers who were residents of the state at the time it was admitted into the Union, each to present a credential signed by a county officer or an officer of an old settlers' association. The executive committee granted this privilege and the use of the assembly tent on Thursday afternoon, August 31st.

The superintendent of grounds was instructed to put new roofs on ten cattle barns and horse barn No. 5.

The committee approved orders placed with the Des Moines Electric Company for transformers and electrical supplies, also for 750 feet of ready wired sockets for outlining the stock pavilion.

The secretary was instructed to place $15,000.00 tornado insurance on the machinery building as soon as the building was completed.

Contract was entered into with Potts Bros. for putting in an eight foot cement walk on the south side of Grand Avenue from entrance to the street runing south along the east side of the machinery building, and on the north side of Grand Avenue from entrance to the bridge; the price to be 9 cents per foot, the same as last year's contract with the above firm.

EXECUTIVE COMMITTEE MEETING.

AUGUST 5-12, 1911.

Executive committee met with all members present.

The request of the Western Union Telegraph Company for the privilege of establishing a branch office in the office of the Superintendent of Machinery in the new Machinery Hall was granted.

Invitation was extended to the United States senators, members of congress, state senators and representatives, and to all state officers and the governor's staff to be present on State Day, Wednesday, August 23rd, and participate in a public reception to be held in the Administration Building in honor of the United States senators, members of congress and state officers.

The Studebaker Manufacturing Company was given the privilege of exhibiting moving pictures showing the process of the manufacture of E. M. F. cars in a tent on the grounds during the fair. with free admission.

Contract with Alex Sloan for the Ray Harroun racing team was approved and signed, the consideration to be $500.00 for three exhibition races to be put on Friday afternoon, September 1st, and the privilege department to receive 25 per cent of gross receipts from the moving picture show of the Indianapolis race under tent.

SPECIAL COMMITTEE MEETING.

August 8-12, 1911.

In addition to the executive committee there were also present the superintendents of the four live stock departments and the superintendents of the machine and agricultural departments: Messrs. Curtiss. Pike. Johnston. Summers. Mullen and Sheldon.

The entries in all live stock departments having closed August 1st, the superintendents were able to determine the approximate number of stalls and pens required to accommodate the stock entered. The cattle and horse barns were found inadequate for entries in those departments and arrangements were made for temporary additions. It was also necessary to provide forty-six additional pens for the sheep department.

The superintendent of grounds was ordered to proceed with the leveling of ground in and around the machinery building, to put in 2x6 around exhibition spaces in order that floors put in by exhibitors would be on the same level, and to put cinders in all aisles and driveways.

MEETING OF THE STATE BOARD OF AGRICULTURE.

September 2, 1911.

Board met in the board room of the Administration Building at nine o'clock Saturday morning, September 2nd, with all members present except Mr. Curtiss.

Pay rolls for the various departments were presented as follows:

Admissions department	$2,515.50
Swine department	425.00
Treasurer's department	1,838.75
Fine Arts department	489.55
Machinery department	459.95
Ticket department	409.75
Speed department	620.15
Agricultural department	357.00
Concession department (ticket sellers)	760.75
Concession department (Privilege Department)	104.00
Forage department	492.00
Secretary's office	650.75
Horse department	956.50
Horticultural department	77.55
Cattle department	577.90
Administration building employes	343.00
Floricultural department	88.00
Police department	3,052.25
Publicity departments	110.25
Sheep and poultry departments	531.00

Mr. Legoe moved that the pay rolls of the various departments be allowed as read. Motion seconded and carried.

A protest of exhibitors on awards in the pony classes was read. Mr. Pike moved that the protest be not sustained, there being no specific evidence on file on which the protest might be sustained, and that the $20.00 deposited with the protest be forfeited. Motion seconded and carried.

A petition from certain exhibitors of Poland China swine relative to the different types of that breed was read and discussed. No action taken.

A protest from exhibitors against awards in the Belgian futurity was read and on motion was referred to the superintendent of the horse department, Mr. Curtiss, and the executive committee, to be continued until further evidence is furnished.

Mr. Pike moved that O. V. Battles, an exhibitor in the cattle department, be fined $25.00 on account of not appearing in the stock parade on Friday afternoon, and that said amount be withheld from his premiums. Seconded by Mr. Curtin. Motion prevailed.

Motion was made upon the recommendation of C. F. Curtiss that J. R. Peak & Son, Winchester, Ill., be fined $100.00 and the same be retained from their winnings on account of failure to participate in the grand live stock parade Friday afternoon, September 1st, as per the request of the superintendent of the department. Motion seconded and carried.

Motion was made upon the recommendation of E. M. Reeves, superintendent of the horticultural department, that Mr. C. G. Patton be allowed $50.00 as a special premium on an educational exhibit of seedling apples at the 1911 fair. Motion seconded and prevailed.

The president appointed as committee on per diem and mileage Messrs. Johnston, Mullen and Curtin.

Mr. Wentworth moved that the executive committee be instructed to extend the thanks of the board to the Des Moines City Railway Company for their courtesy and cooperation and for improving the facilities for handling the crowds in attendance at the 1911 State Fair; seconded by Mr. Gilbertson. Motion prevailed.

On motion of Mr. Gilbertson, seconded by Mr. Curtin, the salary of C. A. Nash, assistant secretary, was made $100.00 per month.

The committee on per diem and mileage made report, and upon motion the same was adopted and warrants ordered drawn covering same.

On motion the board adjourned.

EXECUTIVE COMMITTEE MEETING.

September 27-28, 1911.

Committee met with all members present. The meeting was for the purpose of auditing a number of unpaid bills and to check up contract work on machinery building, sanitary closets, walks, etc.

The following settlement with Jas. Horrabin on contract for culvert and filling in and around the machinery building was agreed to by the committee and the architect O. O. Smith.

To contract with Jas. Horrabin for culvert under machinery building: dimensions 5x10, 276 ft. long	$3,200.00
To 26 feet additional on south end	302.24
To extras, concaving center of culvert	60.00
Total cost of culvert	$3,562.24

DEDUCTIONS.

To lumber bought of superintendent of grounds, as per bill attached	75.14
To water used in concrete work	10.00
To concrete left out of footings, 46 cu. yards at $4.00	184.00
Total deductions	$ 269.14
May 20, warrant No. 8590	1,000.00
May 24, warrant No. 8594	1,000.00
June 5, warrant No. 8607	750.00
September 12, warrant No. 8877	250.00
	$3,269.14
Balance due on contract	$ 293.10

To contract with Jas. Horrabin for filling in and around Machinery Hall as per contract made May 2, 1911. Short haul from north side of Grand Avenue and between bridge and Grand Avenue entrance—24c per cubic yard. Long haul from location on hill northeast of power hall—29c per cubic yard.

To estimate of engineer A. E. Holmes as follows:

I hereby submit my final estimate of earthwork in and around the new machinery hall, which is as follows:

Total cubic yards embankment	19,624
Cubic yards from borrow pit near entrance	5,797
Cubic yards from borrow pit N. E. of grandstand	13,827

Des Moines, Iowa. A. E. HOLMES.
August 20, 1911.

From northeast power hall (long haul) 13,827 cubic yards at 29c.		$4,009.83
From borrow pit (short haul) 5,797 cu. yards at 24c.		1,391.28
		$5,401.11
To first estimate June 30—Warrant No. 8655	$1,500 00	
To second estimate July 20—Warrant No. 8675	2,000.00	
To third estimate August 21—Warrant No. 8767	1,500.00	
To fourth estimate Sept. 12—Warrant No. 8877	250.00	5,250.00
Balance due on grading contract		$ 151.99

Architect O. O. Smith was directed to co-operate with the secretary and the superintendent of grounds in checking up all work on the machinery building and sanitary closets and report all shortages and extras at the next meeting of the committee so that settlement may be made with contractors.

AUDITING COMMITTEE MEETING.

September 26-29, 1911.

The auditing committee met with all members present, viz: Johnston, Legoe and Phillips.

The committee examined and approved all claims on file which had been paid upon authority of the executive committee by warrants No's. 8423 to 8685 inclusive; also the bills which were paid during and since the close of the fair upon approval of the executive committee, board, or on superintendents' O. K.

SPECIAL COMMITTEE MEETING.

October 20, 1911.

The special committee composed of the executive committee and C. F. Curtiss, superintendent of the horse department, met at ten o'clock a. m. to take evidence relative to the protest filed against the award made to Peter Hopley & Son, Lewis, Iowa, on the colt Westside Goldfinder 5580 in the open and the Belgian futurity classes. The following witnesses appeared and were sworn by H. L. Bosquet: For the plaintiffs, C. E. McDermott, Wiota, Iowa, Tom

Nelson, J. D. McDermott and August Collatz. For the defendants: Harry Hopley, Lewis, Iowa, and Dr. G. E.Uehran, Atlantic, Iowa.

Inasmuch as a great deal of the testimony brought out in this hearing was of a hearsay nature, the committee was of the opinion that they should delay a decision until further evidence in the form of affidavits were secured to substantiate the statements made.

Secretary was instructed to write Alex Galbraith, Janesville, Wis., judge of draft horses at the Utah State Fair in 1910, and Horace L. Ensign, secretary of the Utah State Fair, and secure affidavits to show whether the Suffolk mare Blondy 226 was shown at the Utah State Fair of 1910. Also to secure such other affidavits as would have a direct bearing on the case.

EXECUTIVE COMMITTEE MEETING.

October 20-21, 1911.

Committee met with all members present. The secretary presented the following statement showing balance due on contracts and extras on machinery building and sanitary closets:

To contract with Massillon Bridge & Structural Company, Massillon, Ohio, for steel contract on Machinery Hall		$ 31,070.00
Extras:		
Cutting rivets and taking out struts in northeast corner of building, change in plans	$ 6.00	
Drilling holes in truss for eight flag poles	8.00	14.00
		$ 31,084.00
First estimate, July 8, warrant No. 8664	$ 7,000.00	
Second estimate, August 21, warrant No. 8771	20,000.00	
Third estimate, October 7, warrant No. 9026	2,500.00	
	$ 29,500.00	
Invoice of Des Moines Structural Steel Co.—		
42 angles over windows	67.00	
9 channels each side of main entrance	22.88	29,589.88
Balance due on contract		$ 1,494.12
To general contract with J. E. Lovejoy, Des Moines, Iowa, for general contract work on Machinery Hall		$ 31,456.00
Extras:		
Gilding letters Machinery Hall	$ 6.75	
Trimming hardware over as per specifications	15.48	
Cutting through brick wall putting in one pair double doors in men's toilet	29.50	
One pair double doors, ladies' toilet	21.00	
One office door and frame	18.00	
2250 extra anchors on roof @ 5½c	123.75	214.48
		$ 31,670.48
First estimate June 9, warrant No. 8610	$ 3,835.00	
Second estimate, July 8, warrant No. 8665	9,459.80	
Third estimate, Aug. 14, warrant No. 8736	13,162,00	
Fourth estimate, Oct. 16, warrant No. 9166	4,000.00	
	$ 30,456.80	
Water used June and July	20.00	30,476.80
Balance due on Machinery Hall contract		$ 1,193.68

To contract with J. E. Lovejoy, for alterations under grand stand for closets		$ 2,461.75
Extras:		
8 pcs. 11x8x¼ cypress finish	$ 17.00	
8 pr. double acting butts	8.00	
Carpenter's time hanging doors	7.80	
Carpenter at shop fitting hinges, etc.	1.20	
Cartage	1.50	
Painting doors	3.50	39.00
		2,500.75
First estimate Aug. 21, warrant No. 8768		2,000.00
Balance on contract for closets		$ 500.75

A bill amounting to $314.35, from the Grahl-Hermann Co., for nosing for edge of roof and extra sheet metal work on machinery building was presented.

The committee authorized the payment of above balances and claims for extras when work is completed to the satisfaction of the committee and architect Smith.

The secretary was directed to notify the Grahl-Hermann Company to place eaves spouting and down spouts on the second hip roof of the machinery building at a cost of not to exceed their estimate of $150.00.

EXECUTIVE COMMITTEE MEETING.

November 20, 21, 22, 1911.

Committee met with all members present, also architect O. O. Smith.

On the recommendation of Architect Smith and the judgment of the committee, the secretary was authorized to issue warrant for $1200.00 to the Massillon Bridge & Structural Company on steel contract on the machinery building, this leaving a balance of $294.12 to take care of the uncompleted work.

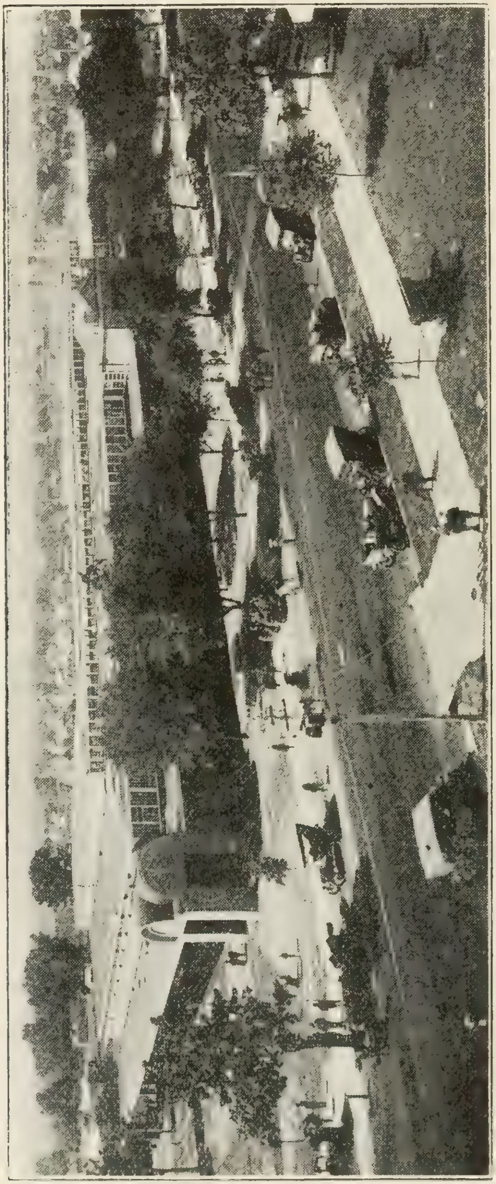
Also warrant for $1000.00 to J. E. Lovejoy on general contract for the machinery building, leaving a balance of $193.68 to take care of the uncompleted work.

Also warrant to J. E. Lovejoy for $400.00 on contract for alterations on amphitheater necessary to install sanitary closets, leaving a balance of $100.75 to finish up contract.

The bill from the Des Moines Electric Company amounting to $6,992.27 was gone over after being carefully checked by the superintendent of grounds and compared with orders on file. The committee instructed the secretary to issue warrant for $6,600.00 on this claim and to hold the balance until checking out apparatus on switchboard has been completed.

The following settlement was made with O. O. Smith, architect:

To services as architect on the following improvements at the Iowa State Fair & Exposition Grounds, 1911:		
To contract on machinery building:		
Massillon Bridge & Structural Co.	$ 31,070.00	
J. E. Lovejoy, general contract	31,456.00	
James Horrabin, culvert contract	3,562.00	66,088.00
To contract on sanitary closets:		
Pray & Comerford, plumbing	5,684.00	
J. E. Lovejoy, alterations on amphitheater closets	2,461.75	8,145.75
To plans for band stand	268.26	268.26
Total amount of contracts		74,502.00
Total amount due architect at 3%		2,235.00
Paid June 26, 1911, warrant No. 8628	1,000.00	
Paid Aug. 21, 1911, warrant No. 8769	1,000.00	2,000.00
Balance due		$ 235.00



MACHINERY HALL, 270 x 520 FEET
Erected 1911, Iowa State Fair and Exposition Grounds

PART VI

PROCEEDINGS

STATE AGRICULTURAL CONVENTION

WEDNESDAY, DECEMBER 13, 1911.

The convention was called to order at 9:30 a. m. by Mr. C. E. Cameron, President of the State Board of Agriculture.

Prayer was offered by Rev. R. K. Porter of the First Presbyterian Church, Des Moines.

Vice President Olson presided while President Cameron delivered the following address:

PRESIDENT'S ADDRESS.

C. E. CAMERON, ALTA, IOWA.

Gentlemen: In accordance with the law and the wishes of this society, it is my duty to preside over the deliberations of this the fifty-seventh annual session which has convened for the transaction of the business of the society. I extend to you a cordial welcome as the legal authorized representatives from your respective county and district fairs and farmers institutes and legally appointed delegates from counties in which no fairs were held the past year. You are here because you are interested in this great educational work that is doing more than anything else to bring Iowa to the front.

By the favor of a kind Providence our state has been blessed this season with a good average crop, and our industries are all in a flourishing condition. The protracted drouth was in some localities severe and caused considerable loss, but taking our states as a whole and in comparison with other states, we have every reason to congratulate ourselves.

The State Fair of 1911 was far beyond our expectations, not only in exhibits but in attendance, and the balance on the right side of the ledger We felt considerable hesitancy in carrying out what we had planned early in the season when the dry weather came on and stayed, and the pessimists said Iowa would not have half a crop. We have great faith in the recuperating powers of the Iowa soil, and that was demonstrated this season when crops looked bad and some of the farmers complained that it was too far along and a rain would do no good. But when the rain came what a wonderful change, not only in the crops but in the faces of the farmers and business interests of the state. When corn was supposed to go only 30 bushels per acre and husked out 50 and 60, and in some places more. Iowa is all right for she will "come back"—not only in crops but in population in the next ten years. A state with all the natural resources of Iowa cannot be kept back; there may be conditions, as there have been in the last few years—the demand for cheaper lands has had a tendency to take away our young men, but that, in my opinion, is only temporary they have not all found what they went after and I look for a return to their native state of a great many of these young men who have gone west in the hope of bettering their financial conditions but have failed on account of the uncertainty of the crops. One thing can be said of Iowa—never in the history of the state has she not raised more than she consumed, and always had something to sell.

The exhibits in all departments were unusually large. The cattle exhibit was the best ever made on our grounds. In the horse department we had the best exhibit, both in numbers and quality, that has ever been made on any fair ground. All breeds were represented and the best of their kind; they came from all over our state and from adjoining states until they taxed our capacity for stabling and necessitated the erection of temporary stables both for horses and cattle.

The hog department verified my previous statement about Iowa "coming back." This year the hogs "came back." For the last year or two this department has had a falling off in entries, but not so this year. The pens were all taken and the quality of entries was above the average of former years.

The sheep department was the largest in the history of the fair. The pens were inadequate for the large exhibit and tents had to be provided to take care of the overflow.

When Secretary Wilson was with us a few years ago he scolded us a great deal about our poultry exhibit, stating that we did not take enough interest in this department. I am sure if he had been here this year he would have congraulated us on the great improvement we have made in that department the last few years.

In the exposition building the exhibits were the finest I have ever seen. Every available space was taken and more could have been used. A few years ago we established an educational department consisting of exhibits from city, town and rural schools. Some of our board were a little skeptical regarding this department, fearing there would not be enough entries to get together a creditable showing. This year's exhibit allayed all doubts not only in regard to the interest but of the number of exhibits. No other department of the fair has made such wonderful strides in the last few years as this department. The exhibit space has been enlarged and still this year they could not show all the material they had.

It did seem good to see our horticultural department "come back" this year. Last year the early frost and freeze worked a hardship in this department but this year's grand showing was certainly a pleasure to see. This depatment also was cramped for space. The floricultural department had an extra fine exhibit considering the season. This department is certainly handicapped for a suitable space to show its exhibits.

The dairy department to my mind is not accomplishing what it should in an educational way for the people of this state. We should have a dairy building where demonstration work could be put on, with lectures during the entire fair, and in this way we could receive a great deal of practical education.

Last, but not least, the agricultural department. Iowa, the greatest agricultural state, ranking more times first from an agriculural standpoint than any other state in the Union, had, I am sorry to say, the poorest exihibit of any of the states surrounding us. This is no fault of the superintendent of this department, for I know the fair management has spent more time and money in trying to bring this department up to the high standard that Iowa is entitled to than in any other department. It seems we cannot get the farmers of our state interested in making entries. We have tried the county exhibits and they have failed. Now we are trying the individual farm exhibit, and I have hopes that in time that will bring out the exhibit. There is a reason for adjoining states having a better agricultural exhibit. It is done largely through land agents who have large tracts of land to sell in these states and they are anxious to attract the land buyer to the resources of their state and in this way sell them land. Go through the agricultural department of the Iowa state fair and you will not find anyone there calling your attention to the land we have for sale. In fact, Iowa has no land for sale except as it comes from local locations. What we want is a showing of our agricultural products in keeping with our state and other exhibits.

The erection of one-half of the proposed machinery building this year was greatly appreciated by the exhibitors in this department. It is just such permanent improvements as these that will continue to make the fair a success. This building, while only one half of the original plan, will house in case of rain 15,000 people; this does much to bring the people and keep them, knowing that in case of bad weather they can still see the fair without being out in the rain. As I have stated before, with permanent buildings and covered walks between them there will be no such thing as failure with the Iowa state fair on account of bad weather.

I have not gone into the financial success of our last fair; our secretary, Mr. Corey, will take that up in his report and give you all the figures on attendance, receipts and disbursements.

The following committees were appointed by President Cameron:

COMMITTEE ON CREDENTIALS.

C. W. Hoffman of Decatur county, Chas. W. Bradley of Lyon county, and E. J. Curtin of Winneshiek county.

COMMITTEE ON RESOLUTIONS.

W. M. Clark of Marshall county, T. W. Purcell of Franklin county, and H. C. Leach of Davis county.

Acting Secretary A. R. Corey read the annual report covering the work of the Iowa Department of Agriculture and the Iowa State Fair and Exposition, as follows:

SECRETARY'S REPORT.

A. R. COREY.

The season of 1911 has been one full of promise and disappointment with regard to crop prospects during the different stages of the growing season. The planting season opened under most promising conditions; the acreage planted was above normal, and weather condition was unusually favorable for farm work and for the growth of farm and fruit crops.

Our farmers were especially favored with excellent weather and soil condition during corn planting season; the corn was all planted in good time; sprouted quickly, and showed almost a perfect stand.

The months of June and July were remarkable for their high temperature and deficiency in rainfall. The small grain, pastures, and early potatoes—which were practically a failure—evidenced the greatest damage from the severe drouth. The continued drouth and hot winds did a great deal of damage to early corn as the pollen was destroyed and poor, uneven fertilization was the result.

The bountiful rainfall during the months of August and September added millions of bushels to Iowa's corn crop and also brought out the late potato crop far beyond our expectations.

While I have had no intimation as to what the report which Dr. George M. Chappel, Director, Iowa Weather and Crop Service, will make to this convention today will contain, I believe it will show that Iowa has again produced her share of the staple crops, notwithstanding the fact that we have suffered the driest season in years.

FARM STATISTICS.

We should all be interested in the Iowa farm statistics recently published by the U. S. Bureau of the Census, for they reveal a material increase in acreage and production for all of Iowa's principal farm crops over the figures reported by the Iowa Weather and Crop Service, and the figures compiled by this department from reports made by the township assessors to the county auditors. These figures are for the year 1909 and show the corn acreage to be 9,229,378 acres, and the production 341,750,463 bushels—an increase of 547,528 acres and an increase of 33,713,565 bushels.

For oats the census gives 4,645,154 acres with a production of 128,198,055 bushels, an increase of 333,020 acres and an increase in production of 11,114,205 bushels.

For potatoes the census shows 169,567 acres, and 14,710,247 bushels harvested, an increase of 31,428 acres and an increase of 2,282,652 bushels.

The total value of Iowa farm crops for the year 1909, as shown by the Bureau of the Census, is $395,739,105.00. Add to this our figures on value of pasturage, orchard and garden products—for which the bureau has as yet issued no figures—and we would have a total valuation of $507,739,-

105.00 against $389,317,276, or an increase of 30 per cent over the valuations reported by this department for the same year.

In the summary of number and value of domestic animals in Iowa, issued by the Bureau of the Census, they give a total valuation of $379,801,978.00 against $365,161,227.00, as shown by this department for the same period, or an increase of $14,640,751.00.

The Bureau of the Census finds the poultry in Iowa worth $12,269,881.00, or an increase of $1,238,528.00 over the figures collected by the various township assessors and tabulated by this department.

It will be noticed from these comparisons that in every instance the census shows a greater production and valuation of Iowa's farm crops and live stock than is reported to this department by the township assessors, or the estimates of the Iowa Weather and Crop Service.

The census figures show conclusively that Iowa has not been over-estimating her farm products and that she should make a greater effort to collect more accurate statistics of everything that is produced on the farm. We have a law upon the statute books which has been in force two years—requiring the collection of crop and other farm statistics annually by the various township assessors who make their reports to the county auditor, who in turn tabulates the assessors reports and makes the returns for the county to the Department of Agriculture. However, it is evident from the returns from some counties and from correspondence with county auditors, that more care should be taken in the selection of township assessors and they should be prevailed upon to make a more diligent effort to make more accurate and complete returns.

STATE PUBLICITY BUREAU.

In Mr. Simpson's report a year ago he discussed this subject thoroughly He made many good suggestions and showed the need of a department of this kind in the state of Iowa. I simply want to call attention to a few instances where a department of this character could render the state valuable service along this line.

At the recent United States Land and Irrigation Exposition held at Chicago, practically every state occupied space with a state wide exhibit setting forth the advantages and resources of their state. The majority of these exhibits were put on by state departments, either through the Immigration Commissioner or Agricultural Commissioner. We also found that in a number of the western states where there is still a large acreage of railroad land in the hands of speculators, that the railroads—through their immigration departments—were greatly interested in advertising the advantages of these western states. We also found that land agencies formed exhibit associations to put on exhibits and they passed out wagon loads of carefully prepared literature, exploiting all the good features, from the climate down, about their states.

At the time formal notice of this magnificent exposition was received—along with application blanks for space—we were obliged to notify the management that the Iowa Department of Agriculture, nor any other state department, had no authority or funds on which we could draw to make such an exhibit for Iowa. We suggested that the matter be taken up with the various commercial clubs over the state but they found it impossible to interest these clubs to the extent of putting on an exhibit According to the United States government statistics six-tenths of the people who have settled the west and south have come from within one night's ride of Chicago. The estimated attendance at this exposition for this year was 500,000.

If Iowa expects to regain her rural population, develop her resources, and bring about a state of more intensified farming it is high time we were sowing seed in fertile fields. This is a day and age of advertising. Other states, and even municipalities, are spending thousands upon thousands of dollars to attract people to their borders, while Iowa sits idly by and sees her population decrease.

I believe our next session of legislature should make it the duty of some department—or create a department—whose duty it would be to collect and disseminate information regarding the opportunities afforded and the productiveness of the soil in our state.

A slight investigation of the returns of the Bureau of the Census on farm crops and live stock in Iowa as compared with other states is convincing evidence that Iowa has a good foundation on which to base her advertising campaign without capitalizing her climate.

The following items were clipped from the country papers, which came to my desk, regarding yields of different products. Such items are often enlarged upon and used in advertising the productiveness of western lands by means of circulars put out by aggressive real estate agencies and by folders circulated by railroads penetrating their borders.

APPLE CROP IN MILLS COUNTY.

"The Gold Mines of Mills County." It is estimated that the total value of the southwest Iowa apple crop will exceed $2,000,000; several thousand people have been busy picking, packing, and sorting them. One man in Mills county took 10,000 barrels off of 70 acres of apple orchard. Another Mills county man sold 6,000 boxes of Jonathans from his orchard."

POTATOES IN FLOYD COUNTY.

"A farmer near Floyd, Floyd county, has the record in this part of the county for a large potato crop. Fourteen acres were planted and they yielded 4,368 bushels, or 312 bushels to the acre. The crop was sold for 50 cents per bushel, or the entire lot brought $2,184.00, equal to $156,00 per acre."

PEARS IN MARION COUNTY.

"A farmer who lives six miles south of Marion was in the city showing samples of pears which he has grown on his place. They are as large, or larger, than the imported pears. They are of the Keefer variety and he has been able to gather a bushel of the fine fruit to the tree from young trees. He says he has great success with pears and would like to see others reap similar harvests. These pears certainly prove that this is a good pear county and they show what can be done by giving such trees a little attention."

INTENSIFIED FARMING.

"France Warner of Wright county, Iowa, clears $1,000.00 a year from his 66 acre farm. This would not be hard if it were a truck or dairy farm near some big city where the produce could be sold for special prices; but his is simply a general farm farmed on the intensive order. The farm consists of 45 acres of rolling farm land, with the remaining 21 acres a flat river bottom with enough of a rise at one place for the farmstead. The 45 acres are used for crops on which a three year rotation is practiced; the crops being corn, oats, and clover in the order mentioned. Every fall the stubble ground and new clover is covered with a coating of manure. This helps to protect the clover during the winter and at the same time gets the use of the manure on the clover ground and the corn. By doing this there is but very little extra fertility saved over for the oat crop, and therefore, it does not lodge under ordinary climatic conditions.

Of course, with as small a place as that everything receives the best of care, both in the field and in the stable. Only the very best is saved for reproduction. The crops that his three 15 acre fields produce on the average are:

15 acres corn at 70 bushels equals 1,050 bushels.

15 acres oats at 60 bushels equals 900 bushels.

15 acres clover equals 40 to 45 tons, according to stand and weather.

This is utilized right on the farm every year and again returned to the field and soil in the form of manure.

It is from his stock that he receives his income. Four mares are kept on the place, three heavy draft mares and a lighter one for driving purposes. The light one is heavy enough so that she can work part of the time when four are needed for putting in the crops in the spring, or for plowing in the fall. All four of these mares are bred every spring. From them he figures on raising three colts. These colts he generally keeps until they are two years old, at which time he can sell them readily for $150.00 apiece, or $450.00 for the three. He keeps ten cows of the milking strain of shorthorns. By selection, weeding and feeding he has brought them to the point where they are producers above the ordinary, and he figures on them making him, on the average $40.00 apiece.

From his cows, then, he receives $400.00. His ten Duroc Jerseys are kept in good shape on his large amount of skim milk, and they have an average six pigs apiece. These 60 pigs he keeps until they will bring him $10.00 on the average, or $600.00 in all. This year he has been making a little better than that all around, but the above figures are those given by him as his standard from year to year.

The above figures total as follows:

Four brood mares, three colts equal	$ 450.00
Ten cows and their calves equal	400.00
Ten sows, 60 pigs, equal	600.00
	$1,450.00

Besides the above he sells chicken produce, garden truck and seed corn enough to meet the running expenses of the family, which consists of a mother, a wife and himself.

The $450.00 that he makes above the thousand he figures for incidentals, repairs, and a little extra feed for his stock in the form of concentrates. His labor problem for extra help during harvesting and haying is usually solved by exchanging work with his neighbor, so that he is not out any cash, but simply a little labor.

His pasture also deserves special mention. As I stated at the beginning, it is a bottom flat and starts very early in the spring. Early in the spring it is disked where it appears soddy and is seeded on the barren spots. The entire lot is covered with a light coating of manure and the way it responds is amazing. However, there are years when during the latter part of July it gets a little dry and barren. At this time he feeds a little extra by cutting some rape from his hog lot, which is as a rule quite heavy at this time, and quite frequently gets too coarse and heavy for the pigs to handle. This is done only for a short time until he gets his grain stacked and the new clover comes on. This year he is going to solve the problem by putting up a silo. By this method he will have a supply for the summer and at the same time have better winter feed for his stock in the form of succulence."

DIVISION OF HORSE BREEDING.

The law under which this department has been issuing certificates to pure bred stallions has been unsatisfactory for various reasons, which we do not need to discuss at this time inasmuch as the Thirty-fourth General Assembly saw the need of a better stallion law and enacted a law which we believe will bring about the desired results. This law will go into effect January 1, 1912, and the following are the principal features stated briefly:

"Each person, firm, company or corporation who offers for public service, sale, exchange, or transfer any stallion or jack over two years old as registered shall procure a state certificate from the Secretary of the State Board of Agriculture.

In addition to the state certificate the owner must furnish an affidavit of soundness from a graduate veterinarian, or in lieu of this certificate the owner may make an affidavit as to the soundness of the stallion before an officer authorized to administer an oath.

The owner of a pure bred or grade stallion or jack will be required to renew the certificate of soundness each year between January 1, and April 1st.

A stallion or jack with any of the following named diseases shall be disqualified for public service: Glanders, farcy, maladie du coit, coital exanthema, uretheral gleet, mange, melanosis, blindness, cataract, bone spavin, bog spavin, periodic opthalmia (moon blindness).

A stallion or jack possessing any of the following named unsoundnesses may receive a certificate, but each certificate and every advertisement shall state that the stallion or jack is unsound and shall specify the unsoundnesses:

Amaurosis, laryngeal hemiplegia (roaring or whistling), pulmonary emphysema (heaves, broken wind), ringbone, side bone, navicular disease, curb, with curby formation of hock, chorea (St. Vitus' dance, crampiness, shivering, string halt).

Before a stallion or jack can be imported into the state a certificate will be required from a state or federal veterinarian to the effect that said animal is free from the diseases specified in the disqualifying section of this act.

The provision for annual renewal of certificate is a very important addition to our law as it will enable this department to publish a complete list each year of stallions and jacks offered for public service within our state. Heretofore the department has been issuing certificates but have had no means of knowing the number of horses removed from the state or those that died. Under these conditions the list of stallions offered for service as published in the Iowa Year Book of Agriculture contained the names of a great number that should have been dropped from the list.

The provision providing for an affidavit of soundness is of great importance as it will rid our state of a number of stallions affected with unsoundnesses that make them undesirable sires. It will also prevent owners of stallions of this type in neighboring states from shipping them into Iowa as they have been doing the past few years, or ever since our neighbors passed laws with similar requirements.

During the past year—from December 1, 1910 to November 30, 1911 inclusive, 705 state certificates and 398 transfer certificates have been issued. Previous to November 1, 1910, 6,721 certificates and 1,191 transfer certicates had been issued, making a total of 7,426 state certificates and 1,589 certificates of transfer issued to date.

This, however, does not mean that there are that many pure bred stallions in the state for, as I have stated before, a great many have been removed or have died. The list as published in the 1911 Year Book will show a complete list enrolled under the new law up to May 1, 1911, and will be of much benefit to stallion owners, and this department, in enforcing the law.

PRINTING.

In Mr. Simpson's reports he has repeatedly recommended that some provision be made whereby this department would be given authority to issue bulletins containing information that would be of interest and of value to the public.

I wish to again make this recommendation and to cite a few specific instances where these bulletins would be of value and a saving to the state. Under the present arrangement the only medium through which we can disseminate information collected by this department is through the Iowa Year Book of Agriculture. Copy for this is prepared along in February and March, but for the past two years it has been impossible to send it to the printer until about the 15th of June as the law requires the publication of the crop and other farm statistics in the Year Book. However, it does not require the county auditors to file their reports of these statistics with this department until June 1st. If it were possible for the department to issue a bulletin in an edition of 15,000 or 20,000, containing these statistics immediately after they were compiled they would be of much more value to the public and it would enable us to have the Year Book ready for distribution six months earlier than under the present arrangement.

Again in order to enforce the stallion law properly I believe that immediately after the first of April of each year, the time limit for renewing certificates of soundness, there should be placed in the hands of each stallion owner a bulletin showing the name of owner and the name of each stallion offered for public service in the state that had renewed certificate and qualified to stand. At present the only alternative will be to send each owner a year book. This will be a very expensive plan and there are not a sufficient number of books printed to go around. The printing of this bulletin giving a list of stallions in the state might be taken care of out of the fees received for certificates if the department was authorized to use them in this manner.

Other bulletins on interesting subjects could be printed to advantage from time to time and be given a much larger circulation than under the present plan of printing everything in the Year Book.

FARMERS INSTITUTES AND AGRICULTURAL SHORT COURSES.

During the year from June 1, 1910, to June 1, 1911, reports from farmers' institutes in seventy-six counties in the state were filed with this department and certified to the auditor of state.

The state aid paid these institutes on state auditor's warrants amounted to $5,582.23. The reports reveal that these institutes held 670 sessions, or an average of nine sessions each. The total attendance was 127,703, an average of 1800 to the institute, or 200 at each session. The receipts indicate that in addition to the state aid there was received from local subscription, membership fees, etc., $12,794.00.

The disbursements were as follows:

Expense of judges, speakers and instructors	$4,065.81
Cash premiums on live stock, agricultural, horticultural and products of domestic science	7,224.00
Miscellaneous expense, consisting of hall rent, advertising, etc.	6,456.00

Under the provisions of Chapter 109, Acts of the Thirty-fourth General Assembly, which permits short course associations to draw the state aid due farmers' institutes in counties where no institutes are held, and the aid due county or district fairs in counties where no fairs are held, seven associations took advantage of this provision.

Kossuth and Worth counties drew the aid due the institutes only, as county fairs were held in both of these counties. Cherokee county drew the aid due the county fair, and Emmet, Floyd, Ida and Plymouth counties drew aid due both the institute and fair.

The total amount paid out on state warrant in support of these short courses amounted to $1,450.00. These short courses had on an average of 25 sessions each and an average attendance of 125 for each session. This is not a complete report of all short courses held in the state as only those that drew state aid reported to this department.

We find that neither institutes or short courses drawing state aid were held in the following seventeen counties: Audubon, Cass, Clarke, Crawford, Des Moines, Dubuque, Fayette, Franklin, Hardin, Iowa, Jasper, Jones, Marshall, Osceola, Pottawattamie, Webster, or Winneshiek. Our report in detail follows:

VICTOR, GRAND CHAMPION STEER
International Live Stock Show, Chicago, 1911
Exhibited by Iowa State College

FINANCIAL STATEMENT OF COUNTY

FOR FISCAL YEAR JULY 1

Number	Counties	Number sessions	Total attendance	Receipts	
				Cash on hand	Miscellaneous receipts
1	Adair	8	900		$ 32.00
2	Adams	4	120		
3	Allamakee	9	500	77.00	26.00
4	Appanoose	19	7,550	120.89	630.45
5	Benton	8	525		111.62
6	Black Hawk	9	900	28.35	
7	Boone	8	5,600	92.52	419.50
8	Bremer	11	2,250		43.19
9	Buchanan	6	2,900	28.37	29.93
10	Buena Vista	7	3,500	130 00	331.44
11	Butler	9	1,260	19.90	69.22
12	Calhoun	9	750	78.24	114.60
13	Carroll	7	600	30.07	76.74
14	Cedar	4	500	47.75	60.05
15	Cerro Gordo	8	1,200		70.00
16	Cherokee	8	1,300	136.78	80.00
17	Chickasaw	11	3,100		252.00
18	Clay	6	1,400	9.46	180.32
19	Clayton	8	1,000		64.05
20	Clinton	11	650	9.20	751.68
21	Dallas	5	500	27.61	64.72
22	Davis	4	600	41.44	321.15
23	Decatur	5	1,000	8.83	
24	Delaware	8	1,100		147.00
25	Dickinson	8	4,500	128.62	533.10
26	Fremont	10	3,300	61.14	144.99
27	Greene	3	175	2.20	171.35
28	Grundy	6	500		160.22
29	Guthrie	7	500	12.50	192.50
30	Hamilton	4	550	43.75	105.73
31	Hancock	5	1,200	17.40	
32	Harrison	6	1,500	15.00	56.50
33	Henry	5	200		215.50
34	Howard	8	1,300		
35	Humboldt	33	2,300	31.00	430.00
36	Jackson	4	2,000	3.75	176.00
37	Jefferson	11	2,300		106.60
38	Johnson	6	1,500	40.00	276.25
39	Keokuk	14	650	109.00	195.00
40	Lee	5	1,000	47.23	215.85
41	Linn	14	1,300	100.90	142.81
42	Louisa	6	750		33.59
43	Lucas	11	770	6.68	
44	Lyon	11	600	52.81	223.00
45	Madison	6	500	13.51	45.20
46	Mahaska	4	1,450	322.03	
47	Marion	4	6,000		42.50
48	Mills	7	1,500		115.15
49	Mitchell	7	700		
50	Monona	7	1,000		165.35
51	Monroe	6	1,000	23.29	193.45
52	Montgomery	4	400		
53	Muscatine	7	1,575		41.50

FARMERS' INSTITUTES IN IOWA.

1910 to JUNE 30, 1911.

Receipts		Disbursements						
State aid	Total receipts	For speakers and judges	Premiums	Miscellaneous expenses	Total disbursements	Cash on hand	Overdraft	Number
$ 75.00	$ 107.00	$ 60.00	$ 68.25	$ 86.10	$ 214.35		$ 107.35	1
69.60	69.60	30.20		39.40	69.60			2
75.00	178.00	11.99		65.00	76.99	101.01		3
75.00	826.34	47.49	432.08	96.57	576.14	250.20		4
72.34	183.96	27.63		44.71	72.34	111.62		5
33.00	61.35	15.00		18.00	33.00	28.35		6
75.00	587.02	33.51	172.75	120.69	326.95	260.07		7
75.00	118.19	47.19	17.00	54.00	118.19			8
75.00	133.30	61.73		46.75	108.48	24.82		9
75.00	566.44	92.34	119.25	219.01	430.60	135.84		10
75.00	164.12	53.85	34.00	42.37	130.22	33.90		11
75.00	267.84	54.82	100.00	20.50	175.32	92.52		12
75.00	181.81	30.56	71.00	80.25	181.81			13
75.00	182.80	96.02	27.00	8.60	131.62	51.18		14
75.00	145.00	66.35	18.00	70.25	154.60		9.60	15
75.00	291.78	45.21	47.34	39.70	132.25	159.53		16
75.00	327.00	50.91	70.00	152.21	273.12	53.88		17
75.00	264.78	47.05	68.70	77.25	193.00	71.78		18
75.00	139.05	54.45	49.75	26.40	130.60	8.45		19
75.00	835.88	75.39	575.00	176.29	826.68	9.20		20
75.00	167.33	36.74	62.50	46.85	146.09	21.24		21
75.00	437.59	35.18	298.15	41.65	374.98	62.61		22
57.05	65.88	20.45		36.60	57.05	8.83		23
70.03	217.03	15.29	147.00	54.74	217.03			24
75.00	736.72	51.16	87.75	427.80	566.71	170.01		25
75.00	281.13	50.45	101.00	80.41	231.86	49.27		26
75.00	248.55	27.08	91.25	130.22	248.55			27
75.00	235.22	150.22	20.00	65.00	235.22			28
75.00	280.00	38.85	134.00	66.60	239.45	40.55		29
75.00	224.48	40.93	78.00	20.25	139.18	85.30		30
75.00	92.40	43.72	12.00	25.52	81.24	11.16		31
75.00	146.50	38.48	73.00	31.55	143.03	3.47		32
75.00	290.50	43.30	215.50	25.55	284.35	6.15		33
75.00	75.00	60.75		14.25	75.00			34
75.00	536.00	237.00	192.00	97.00	526.00	10.00		35
75.00	234.75	42.65	156.00	32.35	231.00	3.75		36
75.00	181.00	44.00	50.00	85.20	179.20	1.80		37
75.00	391.25	78.75	128.50	63.90	271.15	120.10		38
75.00	379.00	80.19		295.00	375.19	3.81		39
75.00	338.08	41.56	190.00	38.00	269.56	68.52		40
75.00	318.71	83.07	81.81	63.13	228.01	90.70		41
75.00	108.59	85.59		23.00	108.59			42
75.00	81.68	29.40	21.25	28.95	79.60	2.08		43
75.00	360.81	77.44	132.72	60.00	270.16	90.65		44
75.00	133.71	23.10	40.00	18.10	81.20	52.51		45
75.00	397.03			77.15	77.15	319.88		46
75.00	117.50	10.00	49.00	140.35	199.35			47
75.00	190.15	44.74	111.00	34.41	190.15			48
55.33	55.33	14.33		41.00	55.33			49
75.00	240.35	28.13	169.50	30.00	227.63	12.72		50
75.00	291.74	16.07	79.00	156.85	251.92	39.82		51
49.88	49.88	25.23		24.65	49.88			52
75.00	116.50	39.95	41.50	35.05	116.50			53

FINANCIAL STATEMENT OF COUNTY FARMERS'

Number	Counties	Number sessions	Total attendance	Receipts	
				Cash on hand	Miscellaneous receipts
54	O'Brien	8	2,650	60.00	212.00
55	Page	8	3,600		200.00
56	Palo Alto	13	3,300	209.20	91.22
57	Pocahontas	10	3,400	56.26	115.35
58	Polk	16	1,700	30.00	478.00
59	Poweshiek	4	1,500	68.01	170.53
60	Ringgold	8	2,200	16.05	253.00
61	Sac	9	2,500	32.00	561.77
62	Scott	7	2,500	32.00	561.77
63	Shelby	5	1,025	8.48	18.75
64	Sioux	8	2,050		158.11
65	Story	4	250	18.40	
66	Tama	13	2,050	125.00	45.30
67	Taylor	21	2,300		
68	Union	8	1,500	30.00	82.60
69	Van Buren	29	2,445		4.91
70	Wapello	10	1,600	35.91	574.03
71	Warren	4	800	313.39	91.20
72	Washington	7	3,000	32.61	55.00
73	Wayne	13	3,000	72.10	155.72
74	Winnebago	17	6,000		359.81
75	Woodbury	5	1,250	28.25	244.00
76	Wright	22	3,108	115.41	838.05
		670	137,703	$ 3,168.29	$ 12,794.65

FINANCIAL STATEMENT OF SHORT

For Year Ending

1	Cherokee	18	2,500		$ 1,054.15
2	Emmet	32	4,000	$ 146.17	1,213.46
3	Floyd	14	3,300	35.11	1,658.70
4	Ida	18	3,000	402.89	1,292.65
5	Kossuth	18	3,500		773.76
6	Plymouth	40	1,600		2,370.86
7	Worth	28	3,700		2,239.00
		168	21,600	$ 584.17	$ 10,602.58

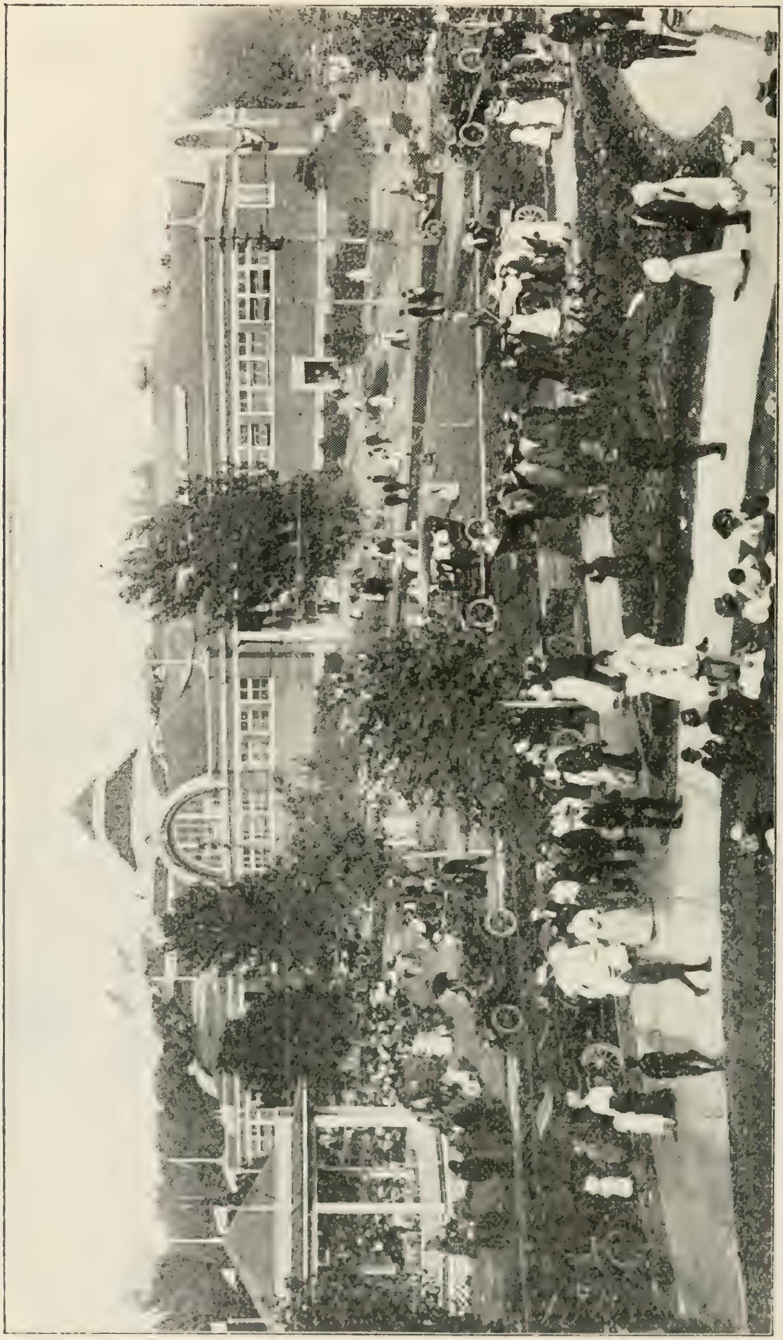
INSTITUTES IN IOWA—Continued.

Receipts		Disbursements						
State aid	Total receipts	For speakers and judges	Premiums	Miscellaneous expenses	Total disbursements	Cash on hand	Overdraft	Number
75.00	347.00	133.50	12.00	63.25	208.75	138.25	---------	54
75.00	275.00	76.48	66.50	132.02	275.00	---------	---------	55
75.00	375.42	112.95	96.00	76.50	285.45	89.97	---------	56
75.00	246.61	92.98	9.00	58.70	160.68	85.93	---------	57
75.00	583.00	69.00	443.00	40.00	552.00	31.00	---------	58
75.00	313.54	41.36	153.75	116.00	311.11	2.43	---------	59
75.00	344.05	34.50	200.00	48.00	282.50	61.55	---------	60
75.00	668.77	46.26	197.75	111.24	355.25	313.52	---------	61
75.00	283.10	32.75	150.00	100.35	283.10	---------	---------	62
75.00	102.23	39.55	50.00	27.39	116.94	---------	14.71	63
75.00	233.11	25.00	52.00	156.11	233.11	---------	---------	64
75.00	93.40	26.35	26.00	39.40	91.75	1.65	---------	65
75.00	245.30	36.43	86.50	74.00	196.93	48.37	---------	66
75.00	75.00	59.08	---------	17.75	76.83	---------	1.83	67
75.00	187.60	11.05	92.50	36.80	140.35	47.25	---------	68
75.00	79.91	11.83	---------	68.08	79.91	---------	---------	69
75.00	684.94	52.71	433.85	177.61	664.17	20.77	---------	70
75.00	479.59	18.00	147.00	40.30	205.30	274.29	---------	71
75.00	162.61	17.25	5.00	86.45	108.70	53.91	---------	72
75.00	302.82	69.33	90.12	51.70	211.15	91.67	---------	73
75.00	434.81	141.83	87.00	205.98	434.81	---------	---------	74
75.00	347.25	52.61	142.25	57.06	251.92	95.33	---------	75
75.00	1,028.46	209.52	52.00	776.87	1,038.39	---------	9.93	76
$ 5,582.23	$ 21,545.17	$ 4,065.81	$ 7,224.77	$ 6,456.69	$ 17,747.27	$ 4,023.17	$ 225.27	

COURSE ASSOCIATIONS OF IOWA

June 30, 1911

$ 200.00	$ 1,254.15	$ 148.85	$ 248.50	$ 635.44	$ 1,032.79	$ 221.36	---------	1
275.00	1,634.63	241.01	1,186.93	273.47	1,701.41	---------	$ 66.78	2
275.00	1,968.81	340.90	669.48	923.12	1,933.50	35.31	---------	3
275.00	1,970.54	308.60	593.00	610.90	1,512.50	458.04	---------	4
75.00	848.76	281.65	93.00	474.11	848.76	---------	---------	5
275.00	2,645.86	287.48	833.25	1.202.47	2,323.20	322.66	---------	6
75.00	2,314.00	410.00	1,030.00	202.00	1,642.00	672.00	---------	7
$ 1,450.00	$ 12,636.75	$ 2,018.49	$ 4,654.16	$ 4,321.51	$ 10,994.16	$ 1,709.37	$ 66.78	



VIEW OF AGRICULTURAL BUILDING AND PLAZA
Iowa State Fair and Exposition Grounds

COUNTY AND DISTRICT FAIRS.

In spite of the rainy September, during which month a greater portion of the county and district fairs were held, we are pleased to report that on the whole it has been a successful season for these fairs. The report will indicate that the receipts and attendance were larger and that more money was paid out in cash premiums than last year.

Ninety fairs reported this year against ninety-one for last season. Two or three fairs were completely rained out and did not pay a sufficient amount of premiums to warrant making application for the state aid. The total attendance reported was 830,831, an increase of 30,000 over last year. This would indicate an average attendance of 9,200 for each fair.

The total amount of state aid paid amounted to $20,471.58, or an average of $232.00 for each fair. The total receipts were $449,731.00, or an increase of $23,503.00 over last year. There was paid out in cash premiums —not including premiums. for speed events—$87,581.00. The total disbursements were $432,510.00. This was an increase of $29,156.00 over last year. The cash balance on hand at the close of the season shows an increase of $2,826.00 and on the other hand the total overdrafts were $6,728.00 greater than last year. This would indicate that the fairs favored with good weather were more successful than a year ago and those that met with unfavorable weather suffered severely.

The value of the property has increased from $818,277.00 in 1910 to $882,989.00, or an increase of about ten per cent.

The average valuation of the eighty-eight properties reported is $10,000.00. The other two fairs stated they occupied leased grounds and buildings.

We have prepared the following table showing this information in detail for each fair:

1911—FINANCIAL STATEMENT OF COUNTY AND DISTRICT

Number	County or District	Balance on hand	Receipts		
			Miscellaneous receipts	State appropriation	Total
1	Adair, Greenfield		$ 2,087.85	$ 232.60	$ 2,320.45
2	Adams, Corning		2,461.65	220.40	2,682.05
3	Allamakee, Waukon	$ 621.96	4,170.60	202.00	4,994.56
4	Audubon, Audubon	840.00	4,325.70	257.40	5,423.10
5	Benton, Vinton		4,076.77	240.31	4,317.08
6	Black Hawk, La Porte City		135.80	20.00	155.80
7	Boone, Boone		2,169.40	229.33	*2,398.73
8	Boone, Ogden		1,545.00	208.07	1,753.07
9	Bremer, Waverly	11.25	16,579.24	300.00	16,890.49
10	Buchanan, Independence	92.18	5,189.39	228.87	5,510.44
11	Buena Vista, Alta	45.25	5,020.75	255.92	5,321.92
12	Butler, Allison	17.66	2,974.57	227.86	3,220.09
13	Calhoun, Manson		4,361.11	249.67	4,610.78
14	Calhoun, Rockwell City		4,690.28	224.79	*4,915.07
15	Carroll, Carroll		3,852.45	300.00	4,152.45
16	Cass, Atlantic	57.52	8,337.56	299.89	8,694.97
17	Cass, Massena	977.65	2,580.37	215.61	3,773.63
18	Cedar, Tipton	180.84	3,840.52	275.18	4,296.54
19	Cerro Gordo, Mason City		14,278.52	300.00	14,578.52
20	Chickasaw, New Hampton		1,301.75	147.50	1,449.25
21	Chickasaw, Nashua	93.00	4,915.02	232.67	5,240.69
22	Clayton, Garnavillo	16.85	1,323.40	225.77	1,566.02
23	Clayton, Elkader		2,987.14	216.30	3,203.44
24	Clayton, Strawberry Point	478.09	2,561.59	216 60	3,256.28
25	Clinton, De Witt	299.92	7,505.60	267.06	8,072.58
26	Clinton, Clinton	18.19	4,370.65	277.60	4,666.44
27	Crawford, Arion	400.00	2,076.50	214.70	2,691.20
28	Davis, Bloomfield		4,168.55	255.16	4,423.71
29	Delaware, Manchester		1,820.00	218.15	2,038.15
30	Dickinson, Milford		1,503.00	97.84	1,600.84
31	Dickinson, Spirit Lake		1,534.30	158.20	1,692.50
32	Fayette, West Union	18.99	3,580.35	229.37	3,828.71
33	Fayette, Oelwein	74.15	1,583.00	203.77	1,860.92
34	Franklin, Hampton	961.18	3,852.35	248.00	5,061.53
35	Grundy, Grundy Center	1,156.50	3,136.13	210.63	4,503.26
36	Hancock, Britt	88.97	2,451 70	200.19	2,740.86
37	Hardin, Eldora	141.17	4,682.70	266.88	5,090.75
38	Harrison, Missouri Valley		1,767.15	210.60	1,977.75
39	Henry, Mt. Pleasant	1,440.09	7,491.33	300.00	9,231.42
40	Henry, Winfield		3,084.62	210.55	3,295.17
41	Humboldt, Humboldt	66.12	2,203.50	162.04	2,431.66
42	Iowa, Marengo	104.32	2,569.00	212.98	2,886.30
43	Iowa, Victor	6.71	2,040.79	97.05	2,144.55
44	Iowa, Williamsburg	266.01	1,393.94	206.82	1,866.77
45	Jackson, Maquoketa	.41	7,316.70	245.41	7,562.52
46	Jasper, Newton		5,158.96	248.07	5,407.03
47	Johnson, Iowa City	770.99	4,597.67	236 88	5,605.54
48	Jones, Monticello	1,978.08	4,687.35	182.80	6,848.23
49	Jones, Anamosa		6,014.37	220.22	6,234.59
50	Keokuk, What Cheer	511.42	2,948.25	232.37	3,692.04
51	Kossuth, Algona	188.92	7,264.50	273.72	7,727.14
52	Lee, Donnellson	298.82	1,301.35	21.00	1,721.17
53	Lee, West Point	1.66	1,672.70	162.00	1,836.36
54	Linn, Central City	137.42	2,705.51	262.29	3,105.22
55	Linn, Marion	14.49	2,013.75	229.55	2,257.79
56	Louisa, Columbus Junction	216.29	3,934.79	300 00	5,451.08
57	Lyon, Rock Rapids	3,607.96	9,345.00	258.56	13,211.52

FAIRS IN IOWA RECEIVING STATE AID—1911.

Disbursements				Profit and Loss		Assets and Liabilities		
Miscellaneous expenses	Speed premiums	Other premiums	Total	Balance Nov. 1, 1911	Overdraft	Value of property	Indebtedness	Number
$ 1,111.30	$ 579.25	$ 826.00	$ 2,516.55	----------	$ 196.10	$ 7,000.00	$ 1,620.00	1
1,164.52	701.48	704.00	2,570.00	112.05	----------	10,000.00	----------	2
3,798.70	1,128.30	520.00	5,447.00	----------	452.44	3,000.00	----------	3
1,369.50	1,125.00	1,074.05	3,568.55	1,854.55	----------	6,000.00	1,000.00	4
2,829.91	1,800.00	903.10	5,533.01	----------	1,215.93	10,000.00	2,000.00	5
573.48	----------	50.00	623.48	----------	467.68	5,000.00	1,600.00	6
*874.35	755.00	793.30	2,4 2.65	----------	23.92	10,000.00	1,500.00	7
1,373.81	140.00	580.75	2,094.56	----------	341.49	8,000.00	2,956.17	8
11,779.50	2,140.62	3,159.47	17,079.59	----------	189.10	15,000.00	----------	9
4,181.66	583.00	788.75	5,553.41	----------	42.97	10,000 00	1,200.00	10
2,735.20	2,550.00	1,059.25	6,344.45	----------	1,022.53	10,000.00	1,600.00	11
2,213.78	218.00	778.60	3,210.38	9.71	----------	3,000.00	----------	12
2,402.42	1,312.50	996.75	4,711.67	----------	100 82	5,250.00	2,100.00	13
3,719.67	1,947.50	747.90	6,415.07	----------	1,500.00	12,000.00	1,500 00	14
1,540.00	1,000.00	1,700.00	4,240.00	----------	87.55	7,000.00	260 00	15
4,271.39	1,705.05	1,498.95	7,475.39	1,219.58	----------	25,000.00	1,000.00	16
1,313.19	709.00	656.15	2,678.34	1,095.29	----------	3,500.00	----------	17
3,122.43	155.00	1,251.80	4,529.23	----------	232.69	10,000.00	1,000.00	18
9,144.22	1,775.00	3,259.20	14,178.42	400.10	----------	22,332.61	8,200 00	19
827.00	63.50	368.75	1,259.25	190.00	----------	3,000.00	600 00	20
4,361.35	----------	826.75	5,188.10	52.59	----------	8,500.00	3,900.00	21
1,435.61	22.00	757.75	2,215.36	----------	649.34	4.000.00	600.00	22
1,635.61	455.00	663.00	2,753.61	449.83	----------	7,000.00	5,400.00	23
2,202.49	185.00	666.00	3,053.49	202.79	----------	4.000 00	550.00	24
4,652.79	1,680.00	1,170.60	7,503.39	569.19	----------	5,000.00	150.00	25
1,927.85	1,440 00	1,276.00	4,643.85	22 59	----------	10.047.78	2,160.00	26
1,406.35	285.00	647.00	2,338.35	352.85	----------	1,558.15	----------	27
1,551.11	1,479.75	1,051.60	4,082.46	341.25	----------	12,000.00	1,350.00	28
1,049.00	295.00	681.50	2,025.50	12.65	----------	6,000.00	3,300.00	29
125.00	1,135.00	244.60	1,504.60	96.24	----------	1,000.00	----------	30
562.26	1,550.00	395.50	2,507.76	----------	815.26	9,000.00	5,000.00	31
2,481.12	488.00	793.75	3,762.87	65.84	----------	15,000.00	100 00	32
687.42	391.25	537.75	1,616.42	244.50	----------	2,400.00	557.00	33
3,136.78	750.00	980.00	4,866.78	194.75	----------	5,000.00	2,500.00	34
2,219.10	485.00	606.35	3,310.45	1,192.81	----------	6.000.00	----------	35
2,164.16	325.00	501.95	2,991.11	----------	250.25	4,000.00	1,000.00	36
2,816.95	1,305.00	1,168.80	5,290.75	----------	200.00	10,000.00	200 00	37
653.46	182.00	606.50	1,441.96	535.79	----------	10,000.00	600 00	38
2,547.77	3,150.00	1,659.45	7,357.22	1,874.20	----------	7,500.00	----------	39
2,039.67	650.00	605.50	3,295.17	----------	----------	9,000.00	1,350.00	40
1,447.34	418.00	405.10	2,270.44	161.2[illegible]	----------	3,000.00	800.00	41
1,105.10	1,175.00	629.82	2,909.92	----------	23.62	5,000.00	2,000 00	42
708.65	767.40	242.63	1,718.68	425.87	----------	4,000.00	1,400 00	43
1,162.14	25.00	568.25	1,755.39	111.38	----------	7,000.00	2,384.95	44
5,385.35	1,205.99	954.15	7,545.49	17.03	----------	10,000.00	4,000.00	45
2,292.66	1,455.00	980.79	4,728.45	678.58	----------	12,000.00	1,750.00	46
2,979.81	1,107.10	868.85	4,955.76	649.78	----------	18.000.00	6,200.00	47
4,607.73	755.00	457.00	5,819.73	1,028.50	----------	4.000.00	----------	48
3,732.84	1,560.00	702.25	5,995.09	239.50	----------	12,000.00	4,000.00	49
1,329.49	1,100.00	823.75	3,253.24	438.80	----------	6,000.00	240.00	50
4,526.64	1,786.50	1,237.25	7,550.39	176.75	----------	25,000.00	3,900.00	51
1,225.67	422.00	52.50	1,700.17	21.00	----------	2,000.00	430.66	52
1,012.90	400.00	405.00	1,817.90	18.46	----------	5,500.00	2,240.00	53
1,982.32	----------	1,122.90	3,105.22	----------	----------	6,500.00	2,600.00	54
1,517.04	1,126.00	795.50	3,438.54	----------	1,180.75	10,000.00	5,500.00	55
2,178.84	1,069.64	1,646.35	4,8 4.83	----------	443.75	7,000.00	2,932.25	56
6,539.00	2,315.00	1,085.67	9,939.67	3,271.85	----------	25,000.00	----------	57

1911—FINANCIAL STATEMENT OF COUNTY AND DISTRICT

Number	County or District	Balance on hand	Receipts		
			Miscellaneous receipts	State appropriation	Total
58	Madison, Winterset	41.56	1,882.35	216.32	2,140.23
59	Mahaska, New Sharon	26.28	3,628.60	236.25	3,891.13
60	Marion, Pella	10.42	2,047.00	213 80	2,271.22
61	Marshall, Rhodes	20.72	1,559.82	216.82	1,797.36
62	Marshall, Marshalltown	647.21	10,349.48	300.00	11,296.69
63	Mills, Malvern		4,533.95	257.35	4,791.30
64	Mitchell, Osage	1,046.99	2,199.46	233.85	3,480.30
65	Monona, Onawa	10.02	2,169.55	220.30	2,399.87
66	Monroe, Albia		3,535.15	267.50	3,802.65
67	Muscatine, Wilton Junction	219.00	3,758.76	227.23	4,204.99
68	Muscatine, West Liberty	156.59	6,778.34	300.00	7,234.93
69	O'Brien, Sutherland	275.18	2,062.30	213.87	2,551.35
70	O'Brien, Sheldon	143.76	3,962.75	241.12	4,347.63
71	Page, Clarinda		7,214.40	248.16	7,462.56
72	Page, Shenandoah	253.21	7,997.84	249.86	8,500.91
73	Pocahontas, Fonda	402.50	5,921.80	215.10	6,539.40
74	Pottawattamie, Avoca	62.42	4,171.60	224.89	4,458.91
75	Poweshiek, Malcom	103.92	2,512.35	214.72	2,830.99
76	Poweshiek, Grinnell		2,853.55	253.12	3,106.67
77	Ringgold, Tingley	287.90	1,238.00	300.00	1,825.90
78	Sac, Sac City	1,725.65	6,139.55	203.83	8,069.03
79	Shelby, Harlan	284.65	4,687.99	238.85	5,211.49
80	Sioux, Orange City	23.51	2,214.65	200.00	2,438.16
81	Tama, Toledo	197.93	3,449.66	242.96	3,890.55
82	Van Buren, Milton		1,976.65	202.32	2,178.97
83	Wapello, Eldon	148.32	4,755.83	247.17	5,151.32
84	Warren, Indianola	55.40	3,768.59	240.00	4,063.99
85	Winnebago, Forest City	2,100.00	1,746.83	249.07	4,095.90
86	Winneshiek, Decorah	10.23	1,951.25	213.55	2,175.03
87	Woodbury, Moville	200.00	1,922.15	208.62	2,330.77
88	Woodbury, Sioux City	5,527.11	53,900.33	300.00	59,727.44
89	Worth, Northwood	169.39	1,748.45	215.08	2,132.92
90	Wright, Clarion	414.23	2,213.40	212.67	2,840.30
	Total 1911	$ 30,865.13	$ 398,394.87	$ 20,471.58	$ 449,731.58
	For comparison, with 1910 Statement 91 Fairs	$ 23,224.55	$ 382,503.34	$ 20,500.24	$ 426,228.13

*Overdraft of 1910 included.
†Grounds leased.

FAIRS IN IOWA RECEIVING STATE AID—1911—Continued.

Disbursements				Profit and Loss		Assets and Liabilities		
Miscellaneaus expenses	Speed premiums	Other premiums	Total	Balance Nov. 1, 1911	Overdraft	Value of property	Indebtedness	Number
676.96	800.00	663.25	2,140.21	.02	----------	4,000.00	2,500.00	58
1,638.80	1,170.00	862.50	3,671.30	219.83	----------	7,500.00	------------	59
1,021.95	519.00	638.05	1,170.00	92.22	----------	7,500.00	2,000.00	60
1,074.30	------------	668.20	1,742.50	54.86	----------	2,500.00	------------	61
6,043.04	1,816.00	2,562.65	10,421.69	875.00	----------	25,000.00	------------	62
2,021.81	2,920.50	1,073.50	6,015.81	----------	1,224.51	12,000.00	8,000.00	63
1,373.21	290.00	838.51	2,501.72	978.58	----------	6,000.00	------------	64
1,075.05	835.00	703.00	2,613.05	----------	213.18	8,000.00	3,192.00	65
1,590.00	1,400.00	1,175.00	4,165.00	----------	362.35	8,000.00	1,100.00	66
1,160.00	1,295.00	772.30	3,227.30	977.69	----------	†	------------	67
3,052.35	1,890.00	1,825.50	6,767.85	467.08	----------	†	------------	68
2,164.28	385.00	638.70	3,187.98	----------	636.63	5,000.00	963.00	69
2,160.75	1,220.00	947.25	4,328.00	19.63	----------	6,000.00	------------	70
5,457.75	775.00	981.65	7,214.40	248.16	----------	4,000.00	1,900.00	71
4,348.29	2,888.40	998.65	8,235.34	265.57	----------	28,000.00	3,602.80	72
2,719.07	2,535.00	651.05	5,905.12	634.28	----------	10,000.00	------------	73
2,214.68	1,520.17	748.95	4,483.80	----------	24.89	15,000.00	1,000.00	74
928.42	1,200.00	647.25	2,775.67	55.32	----------	7,200.00	------------	75
1,184.66	975.00	1,031.25	3,190.91	----------	84.24	10,000.00	3,950.00	76
490.00	------------	1,839.40	2,329.40	----------	503.50	700.00	503.50	77
4,236.00	2,311.05	538.35	7,085.40	983.63	----------	13,500.00	------------	78
2,434.51	1,797.05	888.50	5,120.06	91.43	----------	12,000.00	------------	79
922.72	813.00	500.15	2,235.87	202.29	----------	6,000.00	600.00	80
3,381.26	537.50	929.60	4,848.36	----------	957.81	8,000.00	------------	81
1,146.50	1,175.00	523.25	2,844.75	----------	665.78	5,000.00	1,650.00	82
3,417.99	1,473.65	971.70	5,863.34	----------	712.02	6,000.00	3,800.00	83
1,621.49	1,500.00	900.00	4,021.49	42.50	----------	9,000.00	7,000.00	84
3,819.52	292.50	990.75	5,102.77	----------	1,006.87	7,500.00	------------	85
1,848.30	300.00	635.50	2,783.80	----------	608.77	5,000.00	800.00	86
1,341.87	------------	586.25	1,928.12	402.65	----------	1,000.00	------------	87
33,240.68	10,285.00	7,788.02	51,313.70	8,413.74	----------	150,000.00	1,800.00	88
867.44	285.00	650.86	1,803.30	329.62	----------	4,000.00	------------	89
1,406.07	831.15	626.75	2,863.97	----------	23.67	5,500.00	2,000.00	90
$ 245,815.12	$ 99,363.80	$ 87,331.17	$ 432,510.09	$33,681.97	$16,460.48	$ 882,988.54	$ 143,591.67	
$ 224,553.12	$ 99,542.43	$ 83,060.55	$ 403,354.79	$34,163.62	$ 9,732.12	$ 818,277.00	$ 134,054.00	

We have also prepared the following table that will be of value to the management of county fairs in determining charges for admission. This table sets forth the admission fee for adults, children and vehicles at the outside gates; also the admission fee charged at the grand stand and quarter-stretch:

TOTAL ATTENDANCE AND ADMISSION FEES CHARGED AT COUNTY AND DISTRICT FAIRS IN IOWA FOR 1911.

County	Total attendance	Outside Gate Admissions				Qtr.-stretch Admissions	
		Adults	Children	Vehicles	Grand Stand	Vehicles	Persons
Adair	3,503	.35	.15	.25	.15	.25	.15
Adams	7,898	.25	.15	.25	.15	.15	.15
Allamakee	8,000	.35	.25	.25	.25	-------	-------
Audubon	8,000	.35	.25	.25	.15	-------	-------
Benton	8,000	.35	-------	.25	.15	-------	-------
Black Hawk	300	.25	-------	.25	-------	-------	-------
Bremer	33,354	.35	.25	.25	.15	-------	-------
Boone (Ogden)	4,000	.35	.25	-------	.10	-------	.10
Boone (Boone)	7,281	.35	.10	.25	.25	.15	.15
Buchanan	9,075	.35	.15	.15	.15	-------	.25
Buena Vista	9,000	.35	.25	.25	.25	-------	.25
Butler	9,000	.35	-------	.25	.15	-------	-------
Calhoun (Manson)	6,500	.35	.15	.25	.25	-------	.25
Calhoun (Rockwell City)	12,000	.35	-------	.25	.25	.25	.25
Cass (Atlantic)	18,000	.35	.15	.35	.25	.25	.25
Cass (Massena)	5,000	.25	.10	.25	.15	.25	.15
Carroll	8,000	.35	-------	.35	.15	-------	.15
Cedar	7,000	.35	.15	.35	.15	-------	.15
Cerro Gordo	25,640	.35	.15	.25	.25	-------	.25
Chickasaw (New Hampton)	4,500	.25	.15	.25	.10	-------	-------
Chickasaw (Nashua)	7,000	.35	.25	.25	.15	-------	-------
Clayton (National)	3,000	.35	.25	.25	.15	-------	-------
Clayton (Elkader)	9,000	.35	.25	.25	.15	-------	-------
Clayton (Strawberry Point)	6,400	.35	.15	.35	.15	-------	-------
Clinton (DeWitt)	15,000	.35	.15	.35	.25	.25	.25
Clinton	14,000	.35	.15	.35	.25	-------	-------
Crawford	4,000	.35	.15	.25	.25	.25	-------
Davis	17,000	.25	.15	.10	.10	-------	.10
Delaware	4,900	.35	.15	.25	.15	-------	-------
Dickinson (Spirit Lake)	3,000	.35	.15	.25	.25	-------	-------
Dickinson (Milford)	4,000	.25	.15	.25	.15	-------	-------
Fayette (West Union)	15,000	.25	.25	.25	.15	-------	-------
Fayette (Oelwein)	5,472	.25	.15	-------	.25	-------	-------
Franklin	8,358	.35	.25	.25	.25	-------	-------
Grundy	12,000	.35	.15	.25	.15	-------	-------
Hancock	9,000	.35	.25	.25	.15	-------	.25
Hardin	14,000	.35	.15	.35	.15	-------	-------
Harrison	5,000	.35	-------	-------	.10	-------	.25
Henry (Mt. Pleasant)	22,000	.25	-------	-------	.15	.25	.10
Henry (Winfield)	4,400	.25	.15	.25	.15	.25	.15
Humboldt	5,000	.35	-------	.25	.15	-------	-------
Iowa (Marengo)	4,702	.25	.15	.25	.10	.25	.25
Iowa (Victor)	4,000	.35	.25	.35	.25	-------	.25
Iowa (Williamsburg)	2,910	.25	.15	.25	.20	-------	-------
Jackson	10,000	.35	.15	.25	.15	.25	.25
Jasper	10,000	.35	-------	.35	.25	.25	.25
Johnson	10,000	.35	.25	.35	.25	.10	.15
Jones (Monticello)	8,500	.35	.15	.15	.15	.15	.15
Jones (Anamosa)	10,000	.35	.15	.25	.15	.15	.15

TOTAL ATTENDANCE AND FEES CHARGED AT FAIRS—Continued.

County	Total attendance	Outside Gate Admissions				Qtr.-stretch Admissions	
		Adults	Children	Vehicles	Grand Stand	Vehicles	Persons
Keokuk	7,500	.25	--------	.25	.25	.25	.25
Kossuth	17,000	.35	--------	.25	.25	--------	.15
Lee (Donnellson)	1,000	.35	.15	.10	--------	--------	--------
Lee (West Point)	2,100	.35	--------	.25	--------	--------	.10
Linn (Central City)	6,500	.25	.15	.25	.15	--------	--------
Linn (Marion)	5,423	.35	.15	.25	.15	--------	--------
Louisa	10,000	.25	.15	.25	.15	.15	.15
Lyon	12,943	.35	.25	.25	.25	--------	.15
Madison	2,993	.35	--------	--------	.25	.25	.25
Mahaska	7,000	.25	--------	.25	.25	.25	.25
Marion	4,888	--------	--------	--------	--------	--------	--------
Marshall (Eden District)	6,000	.25	.15	.25	--------	--------	--------
Marshall (Marshalltown)	33,000	.25	.15	.25	.25	.25	.25
Mills	12,000	.25	--------	.25	.25	.25	.25
Mitchell	4,617	.35	.15	.25	.15	--------	--------
Monona	3,000	.35	--------	--------	.25	.25	--------
Monroe	7,144	.25	.15	.25	.15	.75	.15
Muscatine (Wilton)	8,000	.35	.20	.35	.15	.15	.15
Muscatine (West Liberty)	14,000	.35	--------	.25	.20	.20	.20
O'Brien Sutherland	6,000	.35	.25	.35	.15	.15	.15
O'Brien (Sheldon)	6,000	.35	.25	.25	.25	--------	--------
Page (Clarinda)	12,000	.25	.15	.25	.15	--------	.25
Page (Shenandoah)	25,000	.25	.15	.25	.15	--------	.25
Pocahontas	9,680	.35	.25	.25	.25	.25	.25
Pottawattamie	5,801	.25	.15	.35	.15	.15	.15
Poweshiek (Malcom)	7,000	.25	.15	.25	.25	--------	.25
Poweshiek (Grinnell)	5,400	.35	--------	.25	.25	--------	.25
Ringgold	4,000	.25	.15	--------	.25	--------	--------
Sac	14,000	.35	.25	.25	.25	--------	.25
Shelby	10,000	.35	.15	--------	.25	--------	.25
Sioux	5,500	.35	.20	.25	.25	.25	--------
Tama	5,000	.35	.15	.25	.15	.25	.25
Van Buren	6,000	.25	--------	.25	.15	.10	.10
Wapello	6,307	.35	.15	.25	.15	--------	.25
Warren	7,500	.25	.15	.25	.25	--------	.25
Winnebago	9,129	.35	.25	.25	.10	--------	--------
Winneshiek	4,380	.35	.15	.15	.15	--------	--------
Woodbury (Moville)	4,000	.35	.15	--------	--------	--------	--------
Woodbury (Sioux City)	72,333	.50	.25	.25	.25	.25	.25
Worth	8,000	.25	--------	.25	.15	--------	--------
Wright	6,000	.35	.25	.25	.25	--------	--------

The following is a summary of the table:

	50c	35c	25c	20c	15c	10c	No charge
General admission (outside gates)—							
Adults	2	[illegible]	28	--------	--------	--------	
Children	--------	--------	21	2	[illegible]	2	[illegible]
Vehicles	--------	13	61	--------		1	[illegible]
Grand stand admission	--------	--------	35	2	39	[illegible]	[illegible]
Quarter-stretch admission							
Persons	--------	--------	29	1	16		[illegible]
Vehicles	--------	--------	21	1	9	[illegible]	[illegible]

From this summary it will be noted that a number of fairs make no charge for admission to the quarter-stretch. I believe the fairs that have adopted the policy of making a small charge for the quarter stretch find it works out to advantage. I know of one fair in northern Iowa that put up a commodious grand stand and fixed the price of admission at 25c, but made no charge for the quarter-stretch. They complained of having trouble in filling their stand; also had complaints from the people who did occupy the stand that the crowd in the quarter-stretch interfered with their view of the ball game and other attractions in the centerfield. The year following they made a charge of 15c for the centerfield and by so doing the stand was well filled each day and the view was greatly improved.

We submit herewith a list of eight fairs that paid in excess of $1,500.00 in premiums and were thereby enabled to draw the full $300.00 state aid. We also give an additional list of fourteen fairs that paid in excess of $1,000.00 in premiums.

Interstate Live Stock Fair, Sioux City	$7,788.02
North Iowa Fair, Mason City	3,259.20
Bremer County Fair, Waverly	3,159.47
Marshall County Fair, Marshalltown	2,562.65
Tingley Fair, Tingley	1,839.40
Union District Fair, West Liberty	1,825.50
Henry County Fair, Mt. Pleasant	1,659.45
Columbus Junction District Fair, Columbus Junction	1,646.35
Cass County Fair, Atlantic	1,498.95
Clinton District Fair, Clinton	1,276.00
Tipton Fair, Tipton	1,251.80
Kossuth County Fair, Algona	1,237.25
Monroe County Fair, Albia	1,175.00
Clinton County Fair, De Witt	1,170.60
Hardin County Fair, Eldora	1,168.80
Wapsie Valley Fair, Central City	1,122.90
Lyon County Fair, Rock Rapids	1,085.67
Audubon County Fair, Audubon	1,074.05
Mills County Fair, Malvern	1,073.50
Buena Vista County Fair, Alta	1,059.25
Davis County Fair, Bloomfield	1,051.60
Poweshiek County Fair, Grinnell	1,031.25

IOWA STATE FAIR AND EXPOSITION.

It gives me great pleasure and satisfaction to be able to report to this convention that Iowa has lived up to her reputation and held another successful fair.

There seems to be a universal opinion among those directly connected with the management of the fair, the exhibitors, the people who attended, and the press, that the 1911 show was, from many points of view, the most successful fair held in the fifty-seven years of its existence.

It has been said that the best way to judge ourselves is by what others say about us. We believe this will apply in judging the success of a fair, and for fear my enthusiasm over the success of our fair might get away with my better judgment, and for the purpose of making it a matter of record, I am going to quote a few words from several of the leading agricultural writers of the country. This will give you their views of the Iowa fair's success and show with what high regard they look upon it.

The Farmer and Breeder of Sioux City has this to say:

"What a magnificent exhibition the Iowa State Fair has become! What a strong influence it wields in the development of our agricultural resources! It is by far the greatest agricultural educational factor in the state, for it reaches so many people. It exerts its influence not only on those who annually or occasionally attend its exhibitions, but also indirectly upon those who stay at home. The state has expended many thousands of dollars in building up this fair, but it can spend many thousands more to advantage, and this will undoubtedly be done.

"The board of directors and the officers of the fair are to be congratulated upon the splendid management of the fair this year. Exhibitors and visitors alike spoke of the uniform courtesy everywhere extended. When well-built machinery is properly oiled and taken care of it runs smoothly, and then it appears as though any one could manage it; but let something get out of repair and an expert is required to put it in order. The Iowa fair is evidently managed by experts or the machinery could not continue to run so smoothly. Mothers remarked that the fair was clean; they rejoiced. Many brought their children and were grateful for seeing no gambling or games of chance. A distinct improvement was seen in the character of the side shows more attention was being directed toward matters having educational value. The ladies' for example, listened to daily lectures on domestic science given by members of the Iowa State College in the college building. Several meetings were also held for the purpose of interesting men and women in organizing county clubs for the purpose of promoting better rural social conditions. For the most part these meetings were well attended."

In the following write-up The Iowa Homestead gives the Iowa State Fair a great deal of credit for putting the condition of the Iowa farmer right before the world:

"With an attendance 21,000 larger than in 1910 and total receipts $25,000 greater, the 1911 Iowa State Fair proved to be the biggest and best of any of the fifty-seven annual exhibitions which the Hawkeye state has held. A quarter of a million people witnessed the exhibition at Des Moines last week. The net profits to the management are computed to be close to $50,000.

"Conceding that there is no surer barometer of prosperity than the attendance upon, and patronage of the various state fairs, agricultural affairs in Iowa must now be recognized as in better condition than for many years past. Pessimistic predictions were freely indulged in during the early summer. The crop season started out most auspiciously, never had hopes of a bumper crop been better. But along came June weather, which instead of being that rare thing of which the poets sing, was nothing more or less than so many furnace blasts of withering, blasting heat. The farmers' faces became long. Men of the city talked of hard times on the farm. The hay crop was a practical failure. The oats crop was below the normal. It was freely predicted that the corn crop would show a falling off of millions upon millions of bushels.

"And then, in this crisis of pessimism, came the Iowa State Fair, opening the western circuit of expositions. The exhibits were more in number and better in quality than ever before. In every live stock department the pens were crowded, while disappointed prospective exhibitors were turned away for lack of room. The agricultural and horticultural building was literally packed with the finest specimens of fruit that Iowa has grown in many years. And the people came from the farm to see the exhibits in numbers larger than ever before. Fifty thousand visitors were hauled to Des Moines in one day by the railroads entering the capital city. Nor were these visitors parsimonious. They had money to spend and they spent it freely. They paid the state fair management $179,000.00, whereas in the previous year they had paid but $157,000.00. They left immense sums in the stores, going on extensive shopping expeditions. Iowa rubbed its eyes. Surely here were not the impoverished farmers of whom it had been prating so glibly.

"And so, to the direct educational value of the state fair held at Des Moines last week, must be added the immense value of the exposition in setting the farmer's condition right before the world. There could be no surer or better criterion of the continued prosperity which is his, of the farmer's ability to buy what he wants and needs and of the farmer's capacity for play as well as for work."

The representative of the Breeders' Gazette of Chicago reported his observations as follows:

"Neither drouth nor flood avails to dim the glory of the Iowa State Fair. Some former years have seemingly sought to drown it out, and now a scorching summer's sun has scattered its discouragement in some sections of the state, but the fair rises to yet greater heights, triumphant over all. It may briefly be summarized as record-making in nearly all respects.

"Cornbelt farming has encountered one of its rare vicissitudes, and Iowa has suffered, but no evidence of that fact could be found either in the exhibits or the attendance. From Des Moines southwest production has been notably lessened from almost unprecedented drouth, but other sections of the state will close the year's accounting with records of production that range all the way from a little less than average to a great deal more than the average. No note of discouragement was sounded. The cornbelt farmer is forehanded. He is not dependent on the returns of a single harvest, as crib and bin and bank hold accumulations of former favorable seasons.

"Fairer weather never forwarded the progress of an agricultural event. Des Moines is in the center of a sun-blistered spot, and the withered grass on the fair grounds testified sadly to that fact, but the main streets had been oiled so that the dust was well laid. The coolness which overspread the northwest covered Iowa with its edge, showing traces of frost in the earlier part of the week, and affording almost an autumnal crisp to the air. More agreeable temperature for visitors, attendants and stock could not be imagined. This condition was reflected at the turnstiles. The week was yet young when a record-breaking total was registered, Tuesday's attendance far exceeded any fair week in the fifty-seven years' history of the institution.

"This record accentuates the need of new clothes for this fair. Much of its accommodations are outgrown, whether designed for exhibits or visitors. Cattle and sheep overflowed into tents and horses into temporary quarters. Neither the Coliseum nor the grandstand proved adequate to the demands. The plan of the rehabilitated grounds has been drawn by landscape gardeners, the new suit of clothes has been ordered.

"New horse and cattle barns, a new sheep department, a new and materially larger Coliseum are prospective parts of the equipment which has been outlined on the plans. The amphitheater at the track is sadly in need of its contemplated extension. Day after day it was inadequate to the demands. Progress has been made toward fitting these grounds with buildings required by the demands of the exhibitors and attendants, but it has been slow. In the face of the necessities the legislative appropriation of $85,000 seems pitiably small. Building is dependent on appropriations and profits; the latter item should be larger this year than ever before."

The following article by The Prairie Farmer of Chicago dwells upon the educational features of our state fair:

"The last week of August was school week for Iowa farmers. Few of the many thousands who took in the sights of the state fair at Des Moines may have regarded their sojourn in this light, yet in view of the unlimited amount of practical information obtainable on all branches of farm practice, the Iowa fair may be said to be one of the greatest schools for practical farmers in existence.

"This was the idea unconsciously expressed by one Hawkeye farmer when he slapped President Cameron on the back at the close of the fair and said: 'Well, Charlie, you've got a mighty good fair and I am glad I came. I've brushed up against some new things, got a hatful of valuable ideas and I'm going home prepared to look my problem square in the face.'

"It was give and take all week with exhibitors and visitors. Plied with questions from all sides by farmers hungry for information that would help them to farm better and live more comfortably, exhibitors became instructors. Possibly a few told more than they knew, but in the end the inquirer gained the information he was after. The diffident farmer forgot his diffidence and joined enthusiastically with his fellow farmers in search for knowledge. Silo demonstrators were besieged, alfalfa 'profs' quizzed, prize-winning animals scrutinized, labor-saving machinery inspected and between times glimpses were taken at the airships, such was the program of fair visitors."

The liberal inducements which have been extended breeders of live stock to exhibit at the Iowa fair have made that fair a great battleground of the breeds, thereby, presenting an unsurpassed opportunity for the study of approved types of animals in every important breed. No better show of draft horses was ever brought together in this country than that seen at the Iowa fair this year.

The representative of Clark's Weekly News of the Harness Horse became so enthused over the showing of yearling draft stallions for the Futurity specials offered by The Chicago Daily Live Stock World that he broke away from the harness horse end of the show for a few minutes and paid the following compliment to the wonderful show of yearling drafters:

"A record-breaking display of yearling stallions of the Clydesdale, Percheron, Shire and Belgian breeds crowned the efforts of The Chicago Daily Live Stock World to establish show ring futurity stakes for yearling pure-bred drafters. As a starter the paper named opened four futurities—one for each breed named—making a substantial guarantee as to money and offering to do all the work for nothing. The result of their labors was that 53 yearling colts were lined up in the arena at Des Moines, August 30, the largest display of the age ever made in the history of the North American show ring.

"As might have been expected eager buyers were on hand to skim off the cream of this great aggregation and many sales were effected that would not otherwise have been made. For instance, Wm. Crownover, of Hudson, Iowa, had the first prize colt in the Shire Futurity. Before the showing he was bid $1,000 for the colt, Paramount Rex. After the ribbon was tied the purchaser jumped his bid to $1,700, which was accepted. This large sum of money, together with his winnings in the futurity and the other classes at the Iowa Fair to which the colt was eligible, gave Mr. Crownover something like $2,100 for a sixteen months' old Shire colt—the largest price ever paid on this side of the water for a home-bred colt of the age."

Wallace's Farmer sees great benefits derived from the Iowa State Fair and Exposition:

"If some of those eastern financiers who have been lying awake nights worrying over western agricultural conditions had spent last week at the Iowa State Fair, they would have gone home tired but feeling better. There is no better barometer of agricultural conditions in the corn belt than the Iowa State Fair. The attendance this year and the temper of the people ought to reassure the most pessimistic pessimist. Never before has it been so large, and seldom has a more cheerful and satisfied spirit been so manifest. The railroads coming into Des Moines were taxed to their capacity, while hundreds of farmers from all sections of the state drove into the city in their automobiles.

"There was no lack of entertainment features. In addition to the aeroplanes, which made two flights daily and could be seen from all parts of the grounds, there were the races and vaudeville stunts in front of the grandstand by day, and an elaborate fireworks display at night. In the stock pavilion a very good show was held each evening while the seats were filled by an interested crowd which watched the stock judging closely. There were the usual side show attractions on the grounds, not particularly elevating but not of the distinctly reprehensible sort. The Iowa Fair management has for years exercised a close censorship over side shows and concessions of all kinds."

The growth and good features of the fair as noted by the Twentieth Century Farmer of Omaha:

"Iowa's annual live stock show and agricultural exposition was held last week on the Iowa State Fair Grounds at Des Moines. This exploitation of the skill and ingenuity of man in the promotion of excellencies in animal creation, in the demonstration of possibilities in soil production and in the bringing to the attention of humanity in mechanical arts the wondrous faculty of inventive genius combine in completing one of the greatest educational efforts that has ever been assembled under the management of state fair enterprise. The Iowa State Fair has grown within the last few years into an immense aggregation of exhibition interests; its improvement and development of grounds, along lines of exposition convenience, advantage and permanency are the wonder and admiration of its oldest patrons and most loyal supporters."

There has always been a few criticisms made in regard to overcharging state fair visitors at the dining halls, and for lodging and meals about the city. We believe that it is well to observe what steps have been taken to correct these evils where they existed and note what a few close observers have to say along this line.

To this end we have secured a report from the Secretary of the Commercial Club which sets forth their efforts to regulate and do away with these over-charges; it also shows what was accomplished in securing lodging and meals for the visitors through the Information Bureaus.

COMMERCIAL CLUB BULLETIN.

The free information bureau conducted for the purpose of providing lodgings for state fair visitors at a reasonable price has again demonstrated its worth.

When the bureaus were opened in the Court House and the Northwestern depot we had listed a few over 11,000 rooms, all at the uniform price of a dollar a bed or fifty cents a person where two persons would go together. Of these fully one-half were provided with two beds in a room, or were what we termed "four party" rooms. This gave us room for accommodating not less than 30,000 persons at the uniform price on any one night. Over 2,000 of the rooms listed with us were in modern homes where the privilege of the bath was extended for the regular price of lodging. Over one-half of those listing rooms agreed to, and did, serve breakfast at a price of not to exceed 35c.

The check of the assignment cards indicates that during the fair we actually assigned over 28,000 persons, a few for one night only, at least 20,000 for from two to four nights each. Of all of the persons provided for in this way but three parties were taken advantage of by persons listing lodgings. These tried to advance rates. In two instances we secured the return of baggage and money advanced and destroyed the cards and in the third instance we recovered the overcharge for the parties after they had used the accommodations. In this way we made good our promise that ample and comfortable accommodations would be provided for all state fair visitors who secured the services of the bureau.

If there were hold-ups, they were due to persons accepting the services of solicitors on the streets and ignoring the bureau. The effort to acquaint people with the bureau, its location, rates, etc., included the insertion of advertising in the state fair literature, in the farm papers, in the American Press Association service, the sending of bulletins to railroad agents, the calling of the location of the bureau on all incoming trains and the displaying of cloth and printed signs around all of the depots.

The strongest endorsement the bureau received, however, was in the fact that each day hundreds of persons came to the attendants with cards that were issued from last year to inquire if the same lodging would be available again this year. Some were the same persons to whom the cards were issued and others were friends of the visitors of a year ago. In but few cases were we unable to give the accommodations called for by the old card.

The representative of the Iowa Homestead has this to say in regard to the efforts made to regulate charges:

"Both the state fair management and the city of Des Moines profited by the experience of former years and dispensed with the grievous overcharge practice which was one of the well founded complaints of visitors to former fairs. Supt. W. C. Brown, of the concessions department, revoked the license of one or two refreshment booths which were found charging visitors more for the meals than the price quoted by the announcer, while the Commercial Club of Des Moines refused to send prospective roomers to private houses which charged more than the price which the club had set as reasonable. It is an indisputable fact that in former years Des Moines has taken unfair advantage of state fair visitors and charged exorbitant prices for ordinary, routine service. The city has learned, however, that this policy would not only redound to its own disadvantage, but, in the course of time, would cut down the attendance of the state fair so that monetary loss would be inevitable. With the single exception of the Greek proprietors of the shoe shining parlors, no class of public providers acted in unison in raising prices. State fair visitors leave large quantities of money in Des Moines, both for their expenses during the week and on shopping tours, and Des Moines showed this year that it appreciates this patronage and liberality and does not propose to take unfair advantage of its visitors."

In the following article The Waterloo Courier acknowledges that much has been done to correct these evils:

"The Courier congratulates Des Moines and the State of Iowa on the success of the greatest fair ever conducted in the State. Undoubtedly it was the best, as well as the largest, and will have resulted in a great benefit to the state at large as well as to those who saw the exhibits. The Courier indulged last year in a little of what might be called 'muck-raking' in regard to the treatment of guests at Des Moines. The charges were resented in the capital city, and even some outsiders called the

Courier and other critical newspapers knockers, whose operations were damaging to the institution of the state fair. It appears from the result, however, that Des Moines needed just a little roasting, for vigorous and conscientious efforts have been made this year to give all visitors a square deal, with the result that the fair has been the greatest success in history. It all goes to prove that the right way is the best way in the end regardless of a little immediate pain."

The following interview with a state fair visitor from southeastern Iowa appeared in the Washington Democrat and would indicate fair treatment:

"I have heard a great deal about being held up or overcharged at the state fair or in Des Moines during the state fair. I may be too green to know when I am stung, but I thought I was treated very fairly. Hotel rooms cost the same as always, meals were the same, meals were just as good, and in place of Des Moines being on the lookout for suckers to skin, it seemed to me everybody was particularly polite and obliging."

The success of a fair is usually judged by the exhibits, attendance and last, but not least, the receipts.

The exhibits at the 1911 fair were, without a doubt, the largest and gave us a better balanced show than was ever before staged upon our state fair grounds.

The 1911 show was made by 1,590 exhibitors in the various departments, making 16,024 entries. This was an increase of 142 exhibitors and 1,696 entries over last year.

The live stock exhibit, which came from fourteen different states, was so large that it became necessary to erect three temporary barns to stall the overflow; one for horses, one for cattle and one for the horses entered in the speed events. It was also necessary to erect additional pens to house the sheep exhibit, and we were obliged to turn away exhibitors in the swine department, as every pen in the mammoth swine pavilion was sold before the entries closed.

The number of exhibitors and entries in the various departments follow:

	No. of Exhibitors 1911	No. of Entries 1911	No. of Exhibitors 1910	No. of Entries 1910
Horses	140	2,114	101	1,958
Cattle	92	1,441	72	1,203
Swine	206	2,886	161	1,973
Sheep	32	691	33	751
Poultry	116	1,361	99	1,297
Agriculture	112	1,033	141	939
Pantry	111	1,577	118	1,640
Dairy	66	69	74	74
Horticulture	48	639	19	357
Floriculture	16	245	13	245
Fine Arts	223	3,355	216	2,917
Educational	115	613	106	650
Farm Implements	318	16,024	320	14,328

The horse show was made by 140 individual exhibitors showing 1,016 head of horses, an increase of 39 exhibitors and a decrease of 90 head in the number of horses entered over last year. A special feature of the horse show this year was the showing of 87 head of yearling draft stallions for the Futurity specials offered by the Chicago Daily Live Stock World. The total amount of cash and plate offered in these specials amounted to $3,265.00, divided among the four breeds—Percheron, Clydesdale, Shire and Belgian, making the largest premium draft colts ever had the privilege of competing for any place in America.

Another significant feature about the horse show which would indicate that our Iowa breeders are improving their stock and becoming successful showmen is the fact that out of the 140 exhibitors 108 were from Iowa, and they secured their share of the premiums.

The following table shows the number of exhibitors and number of horses entered by breeds as compared with the 1910 show:

	—1911 Fair—		—1910 Fair—	
Breed.	No. of Exhibitors.	No. of Horses entered.	No. of Exhibitors.	No. of Horses entered.
Percheron	30	243	25	314
Clydesdale	15	71	10	81
Shire	14	90	13	133
Belgian	21	100	13	150
Draft Geldings and Mares	15	42	26	39
Standard Bred, Etc	28	106	32	140
Saddle Horses	12	44	7	24
Morgan	6	38	4	31
Hackney	5	28	6	22
French and German Coach	..	...	1	14
Shetland Ponies	18	186	16	150
Welsh Ponies (new)	2	18	..	...
Ponies other than Shetland	9	21	3	11
Mules	7	29	4	17
Total	140	1,016	101	1126

The cattle show eclipsed all former records in number of exhibitors, number of cattle shown and in being a better balanced exhibit. The exhibitors numbered 92 and they showed 1,044 head of cattle. This was an increase of 20 exhibitors and 186 head of cattle over the 1910 show.

For the first time in a number of years the premium list contained a classification for Brown Swiss cattle and three exhibitors exhibited 44 head of this breed of cattle.

The following is a table showing the number of exhibitors and number of cattle entered by breeds as compared with the 1910 show:

Breed.	—1911 Fair— No. of Exhibitors.	No. of Cattle entered.	—1910 Fair— No. of Exhibitors.	No. of Cattle entered.
Short-horns	27	204	25	231
Herefords	16	237	14	215
Aberdeen-Angus	8	108	11	119
Galloway	4	63	4	47
Polled Durham	8	82	5	46
Red Polled	7	89	2	39
Holstein-Friesian	5	34	2	28
Jersey	7	96	4	52
Guernsey	5	61	3	53
Ayrshire	2	36	2	28
Brown Swiss (new)	3	44	..	..
Total	92	1,044	72	858

The swine show was one of the old time Iowa shows. Every pen in the swine barn was reserved before the show opened and the management was obliged to refuse entries from eight or ten exhibitors for the reason that there were no more available pens. The show was made by 206 exhibitors and by actual count there was 2,787 head of swine on exhibition, and they were divided among the seven breeds as follows:

	No. Exhibitors.	No. Swine.
Duroc Jersey	81	986
Poland China	62	702
Chester White	36	586
Hampshire	14	303
Berkshire	9	120
Yorkshire	2	68
Tamworth	2	22
Total	206	2,787

The sheep show this year was a little larger than usual and clearly demonstrated the need of better quarters to house this exhibit. The old pens proved inadequate and the exhibitors worked to a disadvantage in showing in the temporary quarters. Seven hundred eighty-two sheep were shown by thirty-three exhibitors.

The poultry show surpassed any in the history of the fair. One hundred eleven exhibitors showed 2,200 birds of exceptional quality and condition considering the season. A special feature of this year's show was the Egg Laying Contest which was conducted just outside the building. This contest attracted a great deal of attention during the entire week. Another new feature was the forenoon and afternoon programs on Wednesday in the assembly tent devoted to the poultry problems and topics of the day.

The poultry department at Ames had an attractive educational exhibit in charge of competent instructors who explained the exhibit to thousands of interested poultrymen.

If there was an exhibit that was not up to standard it was found in the agricultural division.

The extreme drouth during the preceding three months made it rather difficult to find show stuff for this department. Early in the season we had the promise of some 25 or 30 individual farm exhibits, which would have made a very good show, but the dry weather caused them to drop out one at a time until but sixteen actually put on their exhibits. Among them were some very creditable exhibits which partially made up for the deficiency in number.

In the horticultural end of the building everyone was rejoicing over the excellent showing of Iowa's fruit. Something over 5,000 plates were on exhibition and this packed that end of the building and one-half of the balcony floor. While it was a little early in the season for showing some varieties of apples, the exhibit indicated that Iowa was in the fruit growing district and that she would produce a good crop of excellent quality this year.

The machinery exhibitors were given a treat this year in being able to occupy the new machinery building, which was completed just a few days prior to the fair at a cost of $75,000—$65,000 from state appropriation and $10,000 from fair receipts. The building occupies a space 270x520 feet and has 60,000 square feet of exhibit space over and above the aisles. This affords an ideal hall for the exhibition of farm machinery as attested by 93 exhibitors who signed the following statement and presented it to the Superintendent of the Machinery Department:

"After so many years of effort to obtain suitable quarters for exhibits in machinery and vehicles, we, the representatives of the manufacturers and Jobbers of farm machinery, vehicles, and accessory lines; also we of the Iowa Implement Dealers' Association, desire to congratulate and express our appreciation to the State Fair Management, and commend the action of the 34th General Assembly in appropriating funds for the timely erection of the new Machinery hall, and we desire to commend their action in making this great improvement. Although only partially finished, we already see its value, and in the interest of all concerned we hereby express the hope of an early completion of this substantial and enduring building, so necessary to the success of our great state fair."

There were 318 machinery exhibitors, 82 occupied space in the new machinery hall and the balance of the light machinery exhibits were housed in Power Hall, private buildings and tents. The exhibits of heavy machinery, silos, etc., occupied approximately 20 acres of outside space.

The attendance of the 1911 Iowa State Fair, according to the count of the ticket auditing department, was 270,682. This was an increase of 39,000, or about seventeen per cent, over last year. The greatest attendance for any one day was on Tuesday, when 64,699 people passed through the stiles.

The attendance was greatly increased this year on account of having almost perfect weather during the entire week. However, it might have been increased to some extent during the opening days had the reduced rates on the railroads been in effect when the fair opened instead of on Monday the second week of the fair.

The following is the attendance by days as compared with 1910:

	1911.	1910.
Thursday	4,075	....
Friday	6,063	4,956
Saturday	27,514	30,512
Sunday	17,612	16,062
Monday	37,309	25,355
Tuesday	64,699	52,208
Wednesday	60,580	57,918
Thursday	34,117	31,854
Friday	18,173	12,368
Total	270,682	231,233

The total receipts of the 1911 fair were $179,549.67. This is an increase of $22,289.90, or 14 per cent, over last year.

The receipts of the fair for other than ticket sales were $58,044.17, an increase of $5,366.40 over last year, and the ticket sales amounted to $121,505.50, or an increase of $16,921.50 over a year ago.

The total disbursements on account of fair amounted to $137,867.51. Of this amount $56,264.35 was paid out in cash premiums. The 1911 fair cost $7,636.33 more than the fair a year ago. However, this increase is chiefly due to the increase of $6,546.85 in the amount of cash premiums paid.

The net profit of the 1911 fair was $41,682.16. This is the largest profit ever made with the exception of the year 1908, when the profits amounted to $44,171.45.

I am attaching herewith a statement showing in detail the receipts and disbursements of the Iowa Department of Agriculture and the balance on hand at the close of the year, November 30, 1911.

IMPROVEMENTS FOR 1911.

During the year 1911, $109,775.04 was expended for permanent improvements on the grounds. Of this amount $75,375.00 was paid from state appropriation made by the Thirty-fourth General Assembly, and the balance, $34,400.04, was paid from state fair receipts.

The principal improvement was the machinery building which occupies ground space 270x520 feet, and is built of steel and brick at a cost of $74,913.44. Sixty-five thousand dollars of this was paid by state appropriation and $9,913.44 from fair receipts. The next important and much needed improvement was the installation of five batteries of sanitary water closets at various and convenient locations on the grounds. The cost of installing these closets, and the constructing of cess pools for same, amounted to $8,917.24. This was paid by a state appropriation of $8,000.00 and $917.24

from fair receipts. Two thousand three hundred seventy-five dollars of the $12,000.00 state appropriation for additional land was used in purchasing land adjacent to the grounds. Seven thousand dollars of this appropriation is still in the hands of the state treasurer and $2,625.00 in the treasury of the Iowa Department of Agriculture, which is being held until titles are perfected and the balance of the land that the department wishes to acquire can be purchased or condemned.

The management was successful in closing a desirable contract with the Des Moines Electric Company, by which they furnished current for light and power for the grounds. This necessitated the installation of a transformer station, new switch-board, new street lights, and rebuilding the entire line; also putting up insulated wire in place of the bare copper wire which had been in use heretofore. The total cost of this new equipment and installation of same was $9,673.70. There will be a credit to this account of about $4,000.00 from the sale of apparatus in the old plant. This change will make available three times the amount of current that was possible to generate with the old plant. It might be well to state that we had in use this year about 6,000 lights, and our light bill, including payroll of trouble men, amounted to $782.00, while last year we operated less than 3,000 lights with the old plant and the expense of producing the current was $1,641.00. Under the contract we have entered into, and with the equipment installed in the transformer station, we can secure sufficient current to insure ample light for the grounds for the next ten years at about twenty-five per cent of what it cost to maintain a plant and produce it ourselves.

The other expenditures for improvements are fully set out in the following statement:

ITEMIZED STATEMENT OF RECEIPTS AND DISBURSEMENTS OF THE IOWA DEPARTMENT OF AGRICULTURE FOR YEAR ENDING NOVEMBER 30, 1911.

RECEIPTS.

To cash balance Dec. 1, 1911		$ 7,283.44
Receipts from sources other than fair:		
Fees, Division of Horse Breeding	$ 910.50	
Fair Ground collections, use of grounds, etc.	1,624.36	
State Appropriation for machinery building, sanitary closets and additional ground	78,000.00	
State Appropriation for insurance and repairs	1,000.00	
Interest on monthly balance	238.15	
Received from Street Railway Co., one-half expense painting street car entrance	78.75	
Miscellaneous receipts	273.96	
Light plant salvage	1,150.00	
Total receipts other than fair		$ 83,275.72

Receipts of 1911 Fair:

Stall rent, horse department	$ 1,729.00	
Stall rent, cattle department	1,146.00	
Pen rent, sheep department	170.00	
Coop rent and space in poultry department	658.05	
Pen rent, swine department	1,206.00	
Rental floor space, machinery department	3,641.50	
Rental floor space, agricultural department	1,172.50	
Rental floor space, dairy department	1,036.36	
Rental floor space, Exposition Building	2,890.00	
Fines collected—Public Safety Department	34.75	
Concessions and Privileges	24,182.47	
Entry fees, speed department	5,351.80	
Sale of exhibitors' tickets	2,604.00	
Sale of forage	6,502.97	
Cash received from various breeding associations for special premiums	5,092.27	
Advertising in premium list	422.00	
Miscellaneous sources	204.50	
Receipts of fair other than ticket sales	58,044.17	
Ticket sales by treasurer	121,505.50	
Total receipts of fair		$179,549.67
Grand total receipts		$270,108.83

DISBURSEMENTS.

Disbursements other than fair or improvements:

Fair ground maintenance	$ 1,182.88	
Misc. expense other than fair or improvements	136.95	
Miscellaneous expense on account of 1910 fair	292.47	
Annual meeting and State Agricultural Convention, 1910	538.55	
Animal Industry Committee	47.40	
Wrecking old machinery buildings	393.93	
June race meeting	75.50	
City Railway's portion of expense of painting street car entrance	78.75	
Firemen's Tournament	57.61	
Furniture and office supplies	104.75	
Insurance premiums	1,452.50	
Expense selling light plant apparatus	68.00	
Total disbursements other than fair or improvements		$ 4,429.29

Expense of 1911 Fair:

Executive committee meetings	$ 991.00
Special committee meetings	1,266.04
Express, telegraph and telephone	327.95
Postage	864.50
Printing	2,814.13
Advertising	10,452.06
Music and attractions	24,345.78
Light and power	782.64
Water	436.06
Office supplies, stationery, etc	259.48
Forage	5,963.29
Salaries of secretary and office force	2,740.75
Board meetings	645.50
Assistants and foreman (grounds department)	485.54
Scavenger work, care of closets, etc	848.13
Cleaning grounds before and after fair	914.32
Cleaning and repairs to buildings prior to fair	1,199.87
Hauling manure from barns, pens, etc	615.65
Misc. labor during fair	904.25
Care of streets during fair	99.05
Track work	324.09
Cutting grass and weeds	174.90
Payroll and expense, President's Department	453.50
Payroll and expense, Secretary's Department	675.55
Payroll and expense, Treasurer's Department	2,006.75
Payroll and expense, Concession Department	1,530.15
Payroll and expense, Speed Department	938.20
Payroll and expense, Horse Department	1,245.20
Payroll and expense, Cattle Department	1,272.15
Payroll and expense, Swine Department	610.40
Payroll and expense, Sheep Department	394.00
Payroll and expense, Poultry Department	327.62
Payroll and expense, Machinery Department	583.35
Payroll and expense, Agricultural Department	597.90
Payroll and expense, Dairy Department	312.50
Payroll and expense, Horticultural Department	245.59
Payroll and expense, Floriculture Department	88.00
Payroll and expense, Fine Arts Department	590.90
Payroll and expense, School Exhibits Dept	254.88
Payroll and expense, Admissions Department	2,683.85
Payroll and expense, Transportation and Public Safety Department	3,516.01
Payroll and expense, Ticket Auditing Dept	537.25
Women's Rest Cottage	58.15
Expense Model Farm Exhibit	602.30
One-half expense Iowa State College Exhibit	699.04
Plants and flowers	561.85
Freight and drayage	31.88

Expense Iowa Pioneer Day		167.05	
Premium ribbons and badges		708.43	
Tan bark and saw dust for buildings		223.51	
Expense Boys' and Girls' contests		61.46	
Ground Department supplies		218.16	
Refund on admissions		50.50	
Decorating buildings		414.52	
Rental for tents for barns, chairs, cots, etc		651.75	
Dues to American Trotting Association		100.00	
Refund of special premium money not awarded		190.00	
Miscellaneous expense		545.83	
Expense of fair other than premiums		$ 81,603.16	
Cash premiums paid:			
Horses	$14,184.00		
Cattle	12,061.00		
Swine	3,640.00		
Sheep	2,388.00		
Poultry	1,042.00		
Agricultural products	3,524.00		
Pantry and apiary products	856.50		
Dairy products	627.00		
Fruit	1,115.75		
Plants and flowers	1,278.60		
Fine Arts	1,744.50		
School Exhibits	493.00		
Iowa State College Scholarships	850.00		
Speed premiums	12,310.00		
Auto parade premiums	150.00		
Total premiums paid		56,264.35	
Total expense of fair			$137,867.51

IMPROVEMENTS.

Streets, grading and oil	$ 1,521.89
Cement walks and crossings	1,275.11
Tools and implements	186.40
Amphitheater	1,331.88
New machinery building	74,913.44
Sanitary closets (five)	8.917.24
Additional land	2,375.00
Transformer station and light system	9,673.70
New roofs on ten cattle barns and repairs	1,667.15
Administration building furnishings, etc	75.85
Moving old closets and repairs	324.08
Band stand in front of amphitheater and dressing room	316.49
Water distribution system	287.92
New roof on speed barn and repairs	206.83

Lawn seats and camp chairs	268.00	
Permanent ground plans	1,113.20	
Womans' rest cottage	30.01	
New fence on north side of grounds	647.25	
Band stand and change in boxes—stock pavilion	205.80	
Addition to Exposition bldg. (for school exhibit)	259.90	
Painting roof and repairs on gutters—stock pavilion	353.84	
Painting and repairs to street car entrance	105.99	
Band stand and changes in agricultural building	753.12	
Repairs to farm house	50.63	
Horse barns repairs	502.23	
Plates, vases, etc., Horticultural dept	112.82	
Grand avenue entrance	74.93	
Sheep barn repairs	157.13	
Lumber from temporary barns, assembly tent seats, etc. in yard	988.33	
Ticket boxes and punches	98.00	
Fire hose and reels	135.65	
Miscellaneous grading	173.12	
Seeding and planting	21.10	
Drainage	178.35	
Miscellaneous improvements	472.66	
Total improvements		$109,775.04
Grand total disbursements		252,071.84
Cash balance on hand		18,036.99
		$270,108.83

Reconciliation of account with Treasurer:

Cash balance on hand according to Secretary Books	18,036.99
Outstanding warrants unpaid	209.85
Cash balance in treasury Dec. 1, 1911	$ 18,246.84

Mr. G. S. Gilbertson, Treasurer of the State Department of Agriculture, made the following report:

REPORT OF TREASURER.

G. S. GIBERTSON.

To the Directors of the Iowa State Board of Agriculture—

Gentlemen: I present herewith report of receipts and disbursements for year ending November 30, 1911, as follows:

RECEIPTS.

Balance on hand November 30, 1910		$ 7,482.09
Received from gate receipts (day general admissions)	$ 81,914.75	
Received from gate receipts (evening general admissions)	2,290.25	

Received from amphitheater receipts (Day)	8,526.50	
Received from amphitheater box seats (Day)	1,567.50	
Received from amphitheater reserved seats (day)	6,005.25	
Received from amphitheater receipts (evening)	7,808.50	
Received from amphitheater box seats (evening)	1,063.50	
Received from amphitheater reserved seats (evening)	4,660.75	
Received from quarter stretch tickets	777.25	
Received from campers' tickets	3,130.00	
Received from live stock pavilion tickets	3,761.25	121,505.50
Received from supt. of Police department		34.75
Received from supt. Horticulture and Agriculture departments		1,172.50
Received from supt. Swine department		1,206.00
Received from supt. Sheep and Poultry departments		828.05
Received from supt. Horse department		1,729.00
Received from supt. Fine Arts department		2,890.00
Received from supt. Dairy department		1,036.36
Received from supt. Grounds		2,274.36
Received from supt. Cattle department		1,146.50
Received from supt. Machinery department		3,641.50
Received from supt. Privileges		24,182.47
Received from Secretary		101,178.90
Total		$270,307.48

DISBURSEMENTS.

Expense warrants paid		$195,776.79
Premium warrants paid		56,283.85
Balance on hand		18,246.84
Total		$270,307.48
Balance on hand	$ 18,246.84	

Respectfully submitted this 12th day of December, 1911.

G. S. GILBERTSON, Treasurer

December 12, 1911.

Iowa State Board of Agriculture.

Gentlemen—This is to certify that on November 29, 1911, there was on deposit in the Iowa Trust & Savings Bank to the credit of the account of G. S. Gilbertson, Treasurer of the Iowa Department of Agriculture, the sum of eighteen thousand two hundred forty-six dollars and eighty-four cents ($18,246.84).

A. O. HAUGE, Cashier.

CONDENSED FINANCIAL STATEMENT OF THE STATE DEPARTMENT
1907, 1908,

Showing receipts and Disbursements of Iowa State Fair and Other Sources and Net Profit of Fair for Each

Year	Receipts							
	Cash balance beginning of year	In reserve fund	From state fair	From state appropriation	From other sources	Total receipts for year	Grand total	Premiums paid
1896	$ 116.79		$ 36,622.10	$ 7,000.00	$ 6,710.22	50,332.32	$ 50,449.11	$ 16,404.29
1901	28,616.55		50,712.91	1,000.00	2,753.82	54,466.73	83,083.28	19,203.83
1902	34,244.93	$ 12,000.00	63.084.71	38,000.00	3,037.06	104,121.77	138,366.70	21,736.31
1903	30,372.25	15,000.00	59,838.56	1,000.00	3,140.79	63.979.35	94,351.60	23,813.13
1904	28,963.11	15,000.00	66,100.36	48.000.00	2,622.03	116,722.39	145,685.50	24,691.68
1905	29.657.23	15,000.00	84,786.25	1,000.00	2,840.92	88,627.17	118,284.49	28,730.89
1906	39,976.34	15,000.00	110,929.85	1,000.00	3,717.16	115.647.01	155,623.35	31,703.94
1907	50,294.87	15,000.00	104.356.75	76,000.00	5,452.34	185,908.09	236,103.96	35,504.79
1908	35,327.90	15,000.00	138,764.66	1,000.00	3,262.95	143,027.61	178,355.51	38,744.56
1909	25,328.73	15,000.00	137,307.40	101,000.00	5,257.42	243,564.82	268,893.55	42,262.76
1910	4,985.25		157,259.77		14,658.30	171,918.07	176,903.32	49,717.50
1911	7,283.44		179,549.67	78,000.00	5,275.72	262,825.39	270,108.83	56,264.35

OF AGRICULTURE FOR YEARS OF 1896, 1901, 1902, 1903, 1904, 1905, 1906, 1909, 1910 1911.

Expenditures, Together with Amount Expended for Improvements, Repairs, etc., and of the Years Named.

Disbursements							Profits of Fair		
Other fair expenses	Improvements and repairs	Disbursements other than for fair	Total for year	Cash on hand	Previous year's business or outstanding warrants	Grand total	Total receipts of fair	Total expenses of fair	Net profits
$ 15,351.06	$ 7,471.95	$14,019.88	$ 53,247.28	$ 152.84	----------	$ 53,400.12	$ 36,622.10	$ 31,807.35	$ 4,814.75
13,925.87	13,378.73	2,313.44	48,821.87	34,244.93	16.48	83,083.28	50,712.91	33,129.70	17,583.21
20,073.34	63,457.12	2,608.69	107,875.46	30,372.25	118.99	138,366.70	63,084.71	41,809.65	21,275.06
21,989.56	17,855.77	1,704.83	65,363.29	28,963.11	25.20	94,351.60	59,838.56	45,802.69	14,035.87
34,408.62	11,963.09	3,345.27	78,447.87	39,976.34	14.63	145,685.50	66,100.36	53,177.10	12,823.26
28,485.42	59,641.11	3,195.43	116,013.64	29,657.23	139.81	118,284.40	84,786.25	63,139.51	21,646.74
40,315.60	30,035.33	3,385.87	105,440.74	50,294.87	112.26	155,6[illegible]3.35	110,929.85	72,459.39	38,470.46
43,647.20	16,459.05	5,043.03	200,654.07	35,327.90	176.19	236,103.96	104,356.75	79,151.99	25,204.76
55,848.65	53,663.69	4,975.50	153,231.98	25,328.73	381.39	178,355.51	138,764.66	94,593.21	44,171.45
66,963.12	150,208.58	4,379.91	263,814.37	4,985.25	332.39	268,893.55	137,307.40	109,225.88	28,081.52
80,513.68	24,360.98	14,740.26	169,332.42	7,283.44	287.46	176,903.32	157,259.77	130,231.18	27,028.59
81,603.16	109,775.04	4,429.29	252,071.84	18,036.99	*209.85	270,108.83	179,549.67	157,867.51	41,682.16

*Warrants unpaid by treasurer December 1, 1911.

PREMIUM WARRANTS ISSUED YEAR OF 1911.

8-26	8776	C. W. Kenyon	$ 270.00
8-28	8777	John Singleton	100.00
8-28	8778	Ed. Allen	225.00
8-28	8779	C. J. Grubb	50.00
8-28	8780	C. D. Bell	120.00
8-28	8781	W. T. Stantz	120.00
8-28	8782	Luther Miller	40.00
8-28	8783	Horace Anderson	120.00
8-28	8784	L. W. Weir	160.00
8-28	8785	U. J. Shanklin	100.00
8-29	8786	F. R. Goodwin	450.00
8-29	8787	A. L. Thomas	200.00
8-29	8788	Fred Robare	480.00
8-29	8789	L. B. Packer	100.00
8-29	8790	G. W. Spicer	22.50
8-29	8791	Geo. Farrish	50.00
8-29	8792	G. M. Younglove	50.00
8-30	8793	H. H. Smith	200.00
8-30	8794	J. A. Anderson	25.00
8-30	8795	H. J. McKenna	50.00
8-30	8796	S. B. McCormick	30.00
8-30	8797	W. Plourd	37.50
8-30	8798	N. E. Dahl	225.00
8-30	8799	A. T. Wooster	125.00
8-30	8800	Frank Chapman	15.00
8-30	8801	C. E. Robbins	450.00
8-30	8802	F. H. Smith	100.00
8-30	8803	J. H. Bottger	200.00
8-30	8804	O. H. Sholes	97.50
8-30	8805	Joe Pine	100.00
8-30	8806	G. W. Spicer	75.00
8-31	8807	W. E. Stiles	75.00
8-31	8808	John Singleton	37.50
8-31	8809	R. L. Parker	265.00
8-31	8810	A. W. Adrian	35.00
8-31	8811	M. D. Shutt	450.00
8-31	8812	T. O. Swain	140.00
8-31	8813	H. Shields	15.00
8-31	8814	H. Shields	22.50
8-31	8815	A. E. Noe	200.00
8-31	8816	Luther Miller	12.50
8-31	8817	Chas G. Daily	315.00
8-31	8818	Gil Harrison	80.00
8-31	8819	C. Schinstock	675.00
8-31	8820	S. B. McCormick	50.00

8-31	8821	G. W. Spicer	37.50
8-31	8822	E. G. Willard	50.00
8-31	8823	Chas W. Kenyon	520.00
8-31	8824	F. Chapman	37.50
9- 1	8825	L. W. Weir	80.00
9- 1	8826	L. A. Caldwell	225.00
9- 1	8827	L. C. Sloan	127.50
9- 1	8828	Harry Wilson	35.00
9- 1	8829	Dick Wright	30.00
9- 1	8830	E. A. North	30.00
9- 1	8831	Claude Huffman	4.00
9- 1	8832	W. J. Crow	4.00
9- 1	8833	Henry Matern	17.00
9- 1	8834	O. H. Sholes	75.00
9- 1	8835	O. H. Sholes	22.50
9- 1	8836	O. H. Sholes	100.00
9- 1	8837	G. L. Emmert & Sons	66.00
9- 1	8838	Wigstone Bros.	24.00
9- 1	8839	C. C. Croxen	64.00
9- 1	8840	S. B. Hefty & Son	17.00
9- 1	8841	Gilbert Van Patten	14.00
9- 1	8842	Thos. F. Kent	35.00
9- 1	8843	Gawley & Southall	18.00
9- 1	8844	John C. Miller	22.00
9- 1	8845	Ed. L. Wensel	6.00
9- 1	8846	E. L. Nagle & Son	142.00
9- 1	8847	Joe Kramer	50.00
9- 1	8848	C. C. Evans	8.00
9- 1	8849	D. H. Paul	27.00
9- 1	8850	R. B. Allen	37.50
9- 1	8851	T. J. Cox	160.00
9- 1	8852	W. H. Betts	70.00
9- 1	8853	Thomson, Leahy & Hansen	32.00
9- 1	8854	Barr & Rae	22.00
9- 1	8855	R. H. Fitchenmueller	52.00
9- 1	8856	Wm Mason	9.00
9- 1	8857	W. M. Sells & Sons	6.00
9- 1	8858	E. G. Roberts	175.00
9- 1	8859	Hanks & Bishop	91.00
9- 1	8860	Robt. Hazlett	115.00
9- 1	8861	T. F. Householder	4.00
9- 1	8862	S. W. Stewart & Sons	29.00
9- 1	8863	Ashby, Hockett & Gardner	53.00
9- 1	8864	Geo. Weighton	74.00
9- 1	8865	C. J. Grubb	200.00
9- 1	8866	A. P. Alsin	6.00
9- 1	8867	J. M. Higbee	6.00
9- 1	8868	G. G. Clements	61.00
9- 1	8869	Walker Bros.	129.00

9- 1	8870	J. E. Meharry	328.00
9- 1	8871	H. S. Allen	17.00
9- 1	8872	J. H. Mahannah	52.00
9- 1	8873	R. J. Boles	6.00
9- 1	8874	F. T. Quire	14.00
9- 1	8875	John S. Jenks	8.00
9- 1	8876	Clayton Messenger	42.00
9- 1	8877	Mike Sharp & Sons	189.00
9- 1	8878	E. L. Bitterman	90.00
9- 1	8879	O. S. Gibbons	130.00
9- 1	8880	Cahill Bros.	142.00
9- 1	8881	Makin Bros.	139.00
9- 1	8882	J.J. Williams & Son	38.00
9- 1	8883	O. N. Phillips & Son	8.00
9- 1	8884	B. C. Martz	6.00
9- 1	8885	O. Jacobs	6.00
9- 1	8886	C. A. Evans	34.00
9- 1	8887	Baxter & Comer	51.00
9- 1	8888	H. E. Browning	109.00
9- 1	8889	C. M. Perrin	29.00
9- 1	8890	M. H. Corey	15.00
9- 1	8891	L. C. Reese	164.00
9- 1	8892	W. J. Miller	315.00
9- 1	8893	J. W. Larrabee	44.00
9- 1	8894	A. Johnson	16.00
9- 1	8895	A. Johnson	56.00
9- 1	8896	E. P. Harris	140.00
9- 1	8897	J. W. Johnson	15.00
9- 1	8898	B. F. Davidson	214.00
9- 1	8899	Frank J. Clouss	151.00
9- 1	8900	E. M. Hall	46.00
9- 1	8901	Waltemeyer Bros.	87.00
9- 1	8902	Shively & Denton	8.00
9- 1	8903	Willie Essig	156.00
9- 1	8904	W. A. Hoover	82.00
9- 1	8905	Rapp Bros.	211.00
9- 1	8906	Geo. A. Lasley	6.00
9- 1	8907	C. A. Nelson	211.00
9- 1	8908	Wm. Herkelman	54.00
9- 1	8909	O. H. Peasley & Son	50.00
9- 1	8910	O. E. Green	34.00
9- 1	8911	S. J. Gabbert	22.00
9- 1	8912	F. L. Kerr	20.00
9- 1	8913	Straub Bros.	337.00
9- 1	8914	W. C. Lookingbill	5.00
9- 1	8915	Chas Howell	22.00
9- 1	8916	Escher & Ryan	251.00
9- 1	8917	J. A. Taylor	4.00
9- 1	8918	F. L. Postle & Sons	71.00

9- 1	8919	J. L. Plumly	13.00
9- 1	8920	W. A. Taylor & Son	68.00
9- 1	8921	Wm. Simpson	429.00
9- 1	8922	Finch Bros	505.00
9- 1	8923	A. L. Foster	35.00
9- 1	8924	Sam Hague	10.00
9- 1	8925	A. G. Soderberg	105.00
9- 1	8926	A. G. Soderberg	115.00
9- 1	8927	A. G. Soderberg	155.00
9- 1	8928	John Leitch	110.00
9- 1	8929	John Leitch	95.00
9- 1	8930	Mrs. John Leitch	25.00
9- 1	8931	John Donhowe	72.00
9- 1	8932	S. B. Mills	150 00
9- 1	8933	J. A. Loughridge	110.00
9- 1	8934	W. H. Ade	25.00
9- 1	8935	Loren Dunbar	65.00
9- 1	8936	Iowa Dairy Farm	9.60
9- 1	8937	Iowa Dairy Farm	230.40
9- 1	8938	Tomson Bros.	61.80
9- 1	8939	Tomson Bros.	131.20
9- 1	8940	W. S. Corsa	40.00
9- 1	8941	W. S. Corsa	315.00
9- 1	8942	Peter Hopley & Son	95.00
9- 1	8943	C. A. Saunders	954.00
9- 1	8944	E. W. Kreischer	16.00
9- 1	8945	C. S. Hechtner	20.00
9- 1	8946	C. S. Hechtner	59.65
9- 1	8947	C. S. Hechtner	324.35
9- 1	8948	A. O. Huff	56.00
9- 1	8949	S. J. Madison	52.00
9- 1	8950	Frank White	334.00
9- 1	8951	Davis & Haussler	291.00
9- 1	8952	P. F. Smith	100.00
9- 1	8953	H. G. McMillan & Sons	530.00
9- 1	8954	H. G. McMillan & Sons	451.00
9- 1	8955	J. B. Baker	40.00
9- 1	8956	J. J. Lynes	55.00
9- 1	8957	G. W. Parnell	87.00
9- 1	8958	Nash Bros.	74.00
9- 1	8959	Lewis Bros.	79.00
9- 1	8960	Uriah Cook & Sons	138.00
9- 1	8961	F. W. Cook	56.00
9- 1	8962	F. S. King Bros. Co.	134.00
9- 1	8963	Geo Lippert	41.00
9- 1	8964	J. W. Parker	16.00
9- 1	8965	C. C. Roup	190.00
9- 1	8966	R. A. Satterly	23.00
9- 1	8967	W. H. Dunbar	14.00

9- 1	8968	John Graham & Son	144.00
9- 1	8969	B. F. Kunkle	106.00
9- 1	8970	Wm. Cooper & Nephews Co.	334.00
9- 1	8971	J. F. Price	2.00
9- 1	8972	A. W. & F. E. Fox	233.00
9- 1	8973	Burweb Farm	56.40
9- 1	8974	Burweb Farm	63.60
9- 1	8975	Wild Rose Farm	6.70
9- 1	8976	Wild Rose Farm	1,243.30
9- 1	8977	Theo Martin	22.00
9- 1	8978	R. E. Watts & Sons	76.00
9- 1	8979	J. F. Converse & Co.	224.00
9- 1	8980	H. E. Woods	3.00
9- 1	8981	W. A. Wickersham	10.00
9- 1	8982	Chandler Bros.	164.00
9- 1	8983	C. W. Connell & Sons	30.00
9- 1	8984	A. O. Huff	4.00
9- 1	8985	R. M. Anderson & Sons	177.00
9- 1	8986	Jas. Wilson & Sons	76.00
9- 1	8987	Leemon Stock Farm	42.00
9- 1	8988	Ellis Rail	20.00
9- 1	8989	J. S. Zook & Sons	6.00
9- 1	8990	A. J. Blakely	52.00
9- 1	8991	J. H. Watson	4.00
9- 1	8992	G. W. Grigsby	125.00
9- 1	8993	Frank McDowell	25.00
9- 1	8994	J. A. Sage	125.00
9- 1	8995	Isaac Lincoln	73.00
9- 1	8996	F. W. Harding	69.10
9- 1	8997	F. W. Harding	230.90
9- 1	8998	A. W. Arnold	253.00
9- 1	8999	W. O. Sinclair	265.00
9- 1	9000	H. P. Wilkinson Bros.	15.00
9- 1	9001	J. V. Arney	92.00
9- 1	9002	E. C. Roberts	585.00
9- 1	9003	O. J. Mooers	705.00
9- 1	9004	Thos. Bass	565.00
9- 1	9005	T. J. Lee	140.00
9- 1	9006	Carl A. Rosenfeld	15.00
9- 1	9007	J. S. Fawcett & Son	48.00
9- 1	9008	C. C. Van Meter	30.00
9- 1	9009	J. A. Buswell	80.00
9- 1	9010	C. E. Monahan	25.00
9- 1	9011	W. A. Graham	225.00
9- 1	9012	W. T. Overley	22.50
9- 1	9013	F. Berkey & Son	25.00
9- 1	9014	John S. Albaugh	210.00
9- 1	9015	Wilcox & Stubbs	37.85
9- 1	9016	Wilcox & Stubbs	55.15

9- 1	9017	H. J. Hemmerling	38.00
9- 1	9018	Cassidy & Thompson	95.00
9- 1	9019	F. B. Duff	40.00
9- 1	9020	Wm. Crownover	215.00
9- 1	9021	Wm. Crownover	165.00
9- 1	9022	Hamilton Bros.	135.00
9- 1	9023	W. J. Brinigar	139.00
9- 1	9024	Geo. Eggert	40.00
9- 1	9025	Adam Seitz	22.00
9- 1	9026	Adam Seitz	256.00
9- 1	9027	E. Bruins	228.00
9- 1	9028	Jos. Kestel	5.00
9- 1	9029	David Roth	90.00
9- 1	9030	Crawford & Griffin	20.00
9- 1	9031	H. H. Powell	2.00
9- 1	9032	H. H. Powell	48.00
9- 1	9033	O. K. Jack & Horse Co.	40.00
9- 1	9034	G. E. Cole	95.00
9- 1	9035	C. B. Dannen & Sons	105.00
9- 1	9036	H. C. Davis	9.00
9- 1	9037	M. D. Shutt	200.00
9- 1	9038	Van Meter & Caldwell	12.00
9- 1	9039	J. W. Pfander & Sons	4.00
9- 1	9040	A. F. Hager	8.00
9- 1	9041	J. F. Gissibl	30.00
9- 1	9042	G. E. Brown	81.00
9- 1	9043	H. Meyer	2.00
9- 1	9044	Chas. E. Bunn	642.00
9- 1	9045	Geo. W. Murray	115.00
9- 1	9046	Geo. W. Murray	40.00
9- 1	9047	H. G. Bowers	50.00
9- 1	9048	Matt Baker	10.00
9- 1	9049	H. W. Ayres	204.00
9- 1	9050	Allynhurst Farm	288.00
9- 1	9051	A. H. Landy	15.00
9- 1	9052	M. J. Nelson	75.00
9- 1	9053	Funk Bros.	20.00
9- 1	9054	F. S. McPherson	158.00
9- 1	9055	W. M. Putnam & Sons	22.00
9- 1	9056	D. Augstin	90.00
9- 1	9057	D. Augstin	15.00
9- 1	9058	F. Bowerman & Sons	10.00
9- 1	9059	C. E. Mundell	10.00
9- 1	9060	R. F. Fantz	72.00
9- 1	9061	Geo. A. Heyl	208.00
9- 1	9062	C. W. McDermott	10.00
9- 1	9063	R. R. Blake	2.00
9- 1	9064	S. G. McFadden	9.00
9- 1	9065	Wm. Andrews & Sons	101.00

9- 1	9066	Rookwood Farm	102.00
9- 1	9067	Rookwood Farm	50.00
9- 1	9068	Milt S. Mooney	10.00
9- 1	9069	J. L. Poling	50.00
9- 1	9070	Union Wrecking Co.	25.00
9 1	9071	W. W. Seeley	37.00
9- 1	9072	H. J. McKenna	35.00
9- 1	9073	E. A. North	50.00
9- 1	9074	Allen Bros.	1,110.50
9- 1	9075	E. Horton	22.50
9- 1	9076	E. Horton	22.50
9- 1	9077	M. H. Jayden	15.00
9- 1	9078	L. C. Sloan	75.00
9- 1	9079	L. C. Sloan	37.50
9- 1	9080	Chas. Lowder	140.00
9- 1	9081	O. H. Sholes	15.00
9 1	9082	E. G. Willard	315.00
9- 1	9083	H. Brandon	37.50
9- 1	9084	H. Brandon	22.50
9- 1	9085	J. F. Holmes	70.00
9- 1	9086	C. E. Cameron	100.00
9- 1	9087	Bert Stephenson	60.00
9- 1	9088	J. C. Archer	22.50
9- 1	9089	Rex Campbell	60.00
9- 1	9090	Rex Campbell	50.00
9- 1	9091	Mike McInery	100.00
9- 1	9092	Smith & Roberts	189.00
9- 1	9093	Maasdam & Wheeler	100.00
9- 1	9094	Maasdam & Wheeler	25.00
9- 1	9095	H. W. Creighton	30.00
9- 2	9096	H. W. Creighton	37.50
9- 2	9097	H. W. Creighton	75.00
9- 5	9098	J. D. Barnes	95.00
9- 6	9099	Charles Irvine	165.00
9- 6	9100	P. C. Thompson	70.00
9- 6	9101	Wilson Bros.	50.00
9- 8	9102	J. D. Barnes	15.00
9- 8	9103	Thos. F. Stevenson	25.00
9- 8	9104	W. S. Cochrane	25.00
9- 8	9105	Thos. F. Stevenson	7.00
9- 9	9106	Katheryn Anderson	10.00
9- 9	9107	Fred Williams	30.00
9- 9	9108	Trumans' Pioneer Stud Farm	615.00
9- 9	9109	Henry Lefebure	160.00
9-11	9110	Linn Hill Park Stock Farm	86.00
9-16	9111	Mrs. S. S. Arnold	14.00
9-16	9112	Mrs. Jesse Alexander	3.50
9-16	9113	J. H. Allen	6.00
9-16	9114	A. L. Anderson	22.00

9-16	9115	Naomi Anneberg	6.00
9-16	9116	Mrs. T. M. Adams	6.00
9-16	9117	Mrs. C. E. Aroe	1.00
9-16	9118	Chas. Backman	3.00
9-16	9119	G. H. Burge	95.00
9-16	9120	M. S. Bonar	5.00
9-16	9121	A. C. Binnie	323.00
9-16	9122	Balmat & Son	4.00
9-16	9123	N. Bartholomew	5.00
9-16	9124	Robt. Burgess & Son	195.00
9-16	9125	Gertrude Brereton	28.50
9-16	9126	Mrs. A. A. Bennett	5.00
9-16	9127	A. H. Bakehouse	163.19
9-16	9128	R. E. Baldwin	3.00
9-16	9129	G. D. Black	47.70
9-16	9130	Mrs. Margaret Bishop	14.00
9-16	9131	W. B. Bittenbender	8.00
9-16	9132	Mrs. Lake Bower	46.00
9-16	9133	Mrs. E. M. Brinckler	6.00
9-16	9134	J. M. Brown	2.00
9-16	9135	Mrs. A. T. Benge	1.00
9-16	9136	Frances Blanchard	41.00
9-16	9137	J. W. Bittenbender	107.00
9-16	9138	Mrs. Ruth Burchett	6.00
9-16	9139	John Blake	25.00
9-16	9140	Ludwig Bengtson	30.00
9-16	9141	Ray F. Bennett	15.00
9-16	9142	Henry L. Berry	1.00
9-16	9143	Brookdale Poultry Farm	8.00
9-16	9144	Mrs. Ellen Bishop	3.50
9-16	9145	Thos. P. Bond	14.00
9-16	9146	Mrs. Julia M. Betts	1.00
9-16	9147	R. Bishard	16.00
9-16	9148	C. R. Bishop	138.00
9-16	9149	Sophia Bostow	1.00
9-16	9150	Mrs. Mary Bredemus	91.20
9-16	9151	I. L. Beaver	6.00
9-16	9152	M. L. Bevan	3.00
9-16	9153	Mrs. B. W. Barnes	9.50
9-16	9154	Mrs. G. H. Botsford	7.00
9-16	9155	Mrs. H. A. Brant	3.00
9-16	9156	D. C. Bakehouse	3.00
9-16	9157	Alice M. Bland	2.00
9-16	9158	Mrs. Abbie C. Barnes	1.00
9-16	9159	Edith Bell	4.00
9-16	9160	J. P. Cudahy	200.00
9-16	9161	A. L. Champlin	215.00
9-16	9162	G. A. Chaffee	99.00
9-16	9163	Dr. C. Clement	10.00

9-16	9164	Fred Crawford	35.00
9-16	9165	Linn Culbertson	50.00
9-16	9166	J. E. Cornell	4.00
9-16	9167	Florence Chestnut	10.00
9-16	9168	Bernice Copeland	3.00
9-16	9169	Jennie C. Cathcart	2.00
9-16	9170	Wib F. Clements	11.50
9-16	9171	Caroline Chennell	6.50
9-16	9172	Mrs. E. M. Cross	12.00
9-16	9173	Mrs. E. A. Crapsey	6.50
9-16	9174	A. P. Chamberlain	3.00
9-16	9175	W. I. Coon	8.00
9-16	9176	J. H. Chandler	6.00
9-16	9177	Mrs. Anna Cornwall	3.50
9-16	9178	Ida M. Chubb	49.50
9-16	9179	Mrs. Hattie Cheney	1.00
9-16	9180	J. W. Clark	5.50
9-16	9181	Mrs. L. H. Curran	23.50
9-16	9182	Mrs. C. Canine	3.00
9-16	9183	Ralph Chapman	11.00
9-16	9184	Mary Christensen	1.00
9-16	9185	F. E. Colby	20.00
9-16	9186	E. B. Cramblett	2.00
9-16	9187	Ida C. Cohen	1.00
9-16	9188	Mrs. A. D. Cain	3.00
9-16	9189	Ruby L. Cain	6.00
9-16	9190	Grace Dredge	23.00
9-16	9191	Helen A. Deets	16.00
9-16	9192	A. J. Doore	52.00
9-16	9193	Alice Dunkle	3.00
9-16	9194	Mrs. W. L. DeClow	6.50
9-16	9195	Florence Dorrell	4.50
9-16	9196	Israel Drought	8.00
9-16	9197	Mabel L. Downing	4.00
9-16	9198	Pearl Denny	6.00
9-16	9199	Mrs. B. G. Dyer	14.00
9-16	9200	Mrs. Warren Dickens	5.50
9-16	9201	D. M. Dickey	5.00
9-16	9202	Mrs. W. L. Dredge	3.00
9-16	9203	Wm. Danner	9.00
9-16	9204	Mrs. L. R. Ewing	2.00
9-16	9205	Mrs. Lucile Eichenlaub	11.00
9-16	9206	Mrs. A. C. Eichenlaub	5.00
9-16	9207	F. F. Everett	24.00
9-16	9208	L. F. Erwin	1.00
9-16	9209	Mrs. Mary Elliott	3.00
9-16	9210	Mrs. H. J. Easter	15.50
9-16	9211	A. D. Freed	4.00
9-16	9212	J. B. Foltz	5.00

9-16	9213	R. W. Faskin	7.00
9-16	9214	Mrs. Christina Fett	3.00
9-16	9215	Mrs. G. B. Frost	65.00
9-16	9216	Mrs. G. B. Frost	.50
9-16	9217	Roger Finkbine	2.00
9-16	9218	P. A. Fosselman	7.00
9-16	9219	H. T. Farrar	5.00
9-16	9220	Mrs. T. J. Flora	22.00
9-16	9221	John Foehr	7.00
9-16	9222	Tom Finnegan	29.00
9-16	9223	Chas. O. Garrett	235.23
9-16	9224	Clayton Garrett	111.50
9-16	9225	Masie Grinstead	44.50
9-16	9226	Alma Grinstead	24.00
9-16	9227	Mary J. Gaylord	11.00
9-16	9228	Henry George	37.00
9-16	9229	L. Fleda Grabil	17.00
9-16	9230	Mrs. Jos. Grinstead	3.00
9-16	9231	Mrs. J. G. Gingery	8.00
9-16	9232	B. D. Grenbel	15.00
9-16	9233	Mrs. J. E. Grant	2.00
9-16	9234	Esther Guest	3.00
9-16	9235	W. W. Gwinn	94.61
9-16	9236	Grace Gregory	1.00
9-16	9237	Geo. W. Griffith	8.00
9-16	9238	Julius Goldsmith	5.00
9-16	9239	Nell Greaney	20.50
9-16	9240	Mrs. R. M. Good	2.00
9-16	9241	Geo. M. Grinstead	31.50
9-16	9242	Mrs. A. M. Guthrie	5.00
9-16	9243	Mrs. R. J. Grover	1.00
9-16	9244	Emma Gerhardt	52.50
9-16	9245	Mrs. Louis Gerhardt	5.00
9-16	9246	E. H. Graves	14.50
9-16	9247	Mrs. W. H. Greenbaum	1.00
9-16	9248	O. Harris	350.00
9-16	9249	B. T. Haulman	25.00
9-16	9250	W. S. Hill	283.00
9-16	9251	Frank E. Huston	40.00
9-16	9252	W. V. Hixson	215.00
9-16	9253	A. P. Hoisington	8.00
9-16	9254	Carl Holden	180.44
9-16	9255	W. A. Hook	3.00
9-16	9256	Gladys Hook	18.00
9-16	9257	Mrs. G. M. Holmes	11.00
9-16	9258	N. J. Harris	21.00
9-16	9259	M. E. Henry	11.00
9-16	9260	Lenus Hegglund	35.00

9-16	9261	C. E. Hiatt	12.00
9-16	9262	E. Heydon	20.00
9-16	9263	Frank Hood	3.00
9-16	9264	Walter Hilton	2.00
9-16	9265	Harry Hilton	11.00
9-16	9266	Frank Hilton	5.00
9-16	9267	John C. Hol	43.35
9-16	9268	Weir Hart	46.00
9-16	9269	Frank Harker	20.00
9-16	9270	Martin A. Hauge	1.00
9-16	9271	Peter Hove	11.00
9-16	9272	Chas. E. Hines	6.00
9-16	9273	C. W. Howell	7.00
9-16	9274	Hardessen Bros.	1.00
9-16	9275	Mrs. W. H. Harwood	12.50
9-16	9276	W. A. Hutton	1.50
9-16	9277	Fred Hood	12.00
9-16	9278	Helen A. Hoover	2.00
9-16	9279	Jas. Hethershaw	95.00
9-16	9280	Mrs. F. L. Herman	1.00
9-16	9281	Pauline Holland	2.00
9-16	9282	Mrs. Goldie Hervey	1.00
9-16	9283	Ellsworth Harker	20.00
9-16	9284	J. Howell	30.50
9-16	9285	S. W. Hunter	16.00
9-16	9286	F. O. Harrington	57.00
9-16	9287	D. D. Hamilton	26.00
9-16	9288	Mrs. J. B. Hessenius	2.00
9-16	9289	Hanson's Poultry Farm	30.00
9-16	9290	Iowa Floral Company	142.00
9-16	9291	Iowa Seed Company	205.40
9-16	9292	Mrs. Martha Inskeep	1.00
9-16	9293	James Jenson	11.00
9-16	9294	Nels C. Jenson	2.00
9-16	9295	John Justice	65.98
9-16	9296	M. S. Jones	16.50
9-16	9297	Isaac Johnson	80.50
9-16	9298	Jas. H. Jones	4.00
9-16	9299	M. J. Jorgensen	3.00
9-16	9300	Mrs. Oscar Johnson	2 00
9-16	9301	Zeta Johnson	20.00
9-16	9302	Alma Jackson	10.00
9-16	9303	Mrs. S. L. Jodidi	5.00
9-16	9304	Matt Kane	11.00
9-16	9305	Frances Keffer	79.50
9-16	9306	Mrs. M. Kastberg	32.00
9-16	9307	L. S. Kline	7.00
9-16	9308	Mrs. F. M. Klinck	174.90
9-16	9309	C. A. Kenworthy	2.00
9-16	9310	Mrs. A. H. Ketchum	1.00

9-16	9311	W. O. Knapp	38.00
9-16	9312	Mrs. Wm. Kile	3.00
9-16	9313	Gladys Koch	6.00
9-16	9314	Mrs. Will King	1.50
9-16	9315	J. M. Knowles	3.00
9-16	9316	Conrad Kail	4.00
9-16	9317	Henry Lauer	12.00
9-16	9318	H. W. Littleton	10.00
9-16	9319	Ruby Love	7.00
9-16	9320	W. F. Lyon	149.77
9-16	9321	Mary J. Latta	57.00
9-16	9322	Sara J. Latta	16.00
9-16	9323	Mary E. Lowe	11.00
9-16	9324	R. A. Lundberg	5.00
9-16	9325	Ellwyn Lucas	5.00
9-16	9326	Leghorn Hill Poultry Farm	9.00
9-16	9327	S. H. Linton	1.00
9-16	9328	R. H. Longworth	88.00
9-16	9329	Carl and Fred Lewis	36.00
9-16	9330	Perry Livingood	40.00
9-16	9331	Harral A. Longworth	45.00
9-16	9332	Lozier, The Florist	170.00
9-16	9333	J. A. Mason	11.00
9-16	9334	Wm. Milne	2.00
9-16	9335	F. A. Mathis	6.00
9-16	9336	J. H. Miller	539.00
9-16	9337	B. F. Malone	173.30
9-16	9338	C. E. Malone	335.67
9-16	9339	Mrs. J. L. Martin	3.00
9-16	9340	J. C. Maudsley	8.00
9-16	9341	Edw. K. Maudsley	15.00
9-16	9342	D. E. Moffitt	40.18
9-16	9343	Harriett Macy	66.50
9-16	9344	Catherine McCartney	58.50
9-16	9345	Mrs. Earl Manbeck	8.50
9-16	9346	Mrs. N. Murrow	2.00
9-16	9347	Beatrice Mansfield	16.00
9-16	9348	Mrs. Richard Manning	44.00
9-16	9349	Mrs. B. A. Matthews	58.00
9-16	9350	Mrs. Zaidee Munger	2.50
9-16	9351	Mrs. L. G. Miller	4.00
9-16	9352	Clarence Meyer	4.00
9-16	9353	M. A. Moore	16.00
9-16	9354	C. A. Mackey	1.00
9-16	9355	Frances Meyers	3.50
9-16	9356	Forest B. Meyers	5.00
9-16	9357	F. S. Moore	26.00
9-16	9358	F. M. Mercer	1.00
9-16	9359	Mrs. Lurina Murphy	2.00

9-16	9360	Mrs. E. B. Morris	13.00
9-16	9361	Mrs. Frank Morris	1.00
9-16	9362	W. A. McHenry	375.00
9-16	9363	Geo. M. McCray	40.00
9-16	9364	Warren T. McCray	223.00
9-16	9365	Geo. McKerrow & Sons	137.00
9-16	9366	Geo. McKerrow & Sons	10.00
9-16	9367	McLay Bros.	412.00
9-16	9368	J. L. McDonald	9 00
9-16	9369	R. G. McDuff	13.00
9-16	9370	Fred McCulloch	146.54
9-16	9371	D. McArthur & Son	112.24
9-16	9372	Dorr McClain	2.00
9-16	9373	Geo. T. McCannon	27.00
9-16	9374	Cecil McMahon	55.00
9-16	9375	Mrs. Oscar McCreary	12.00
9-16	9376	Rose McMillan	.50
9-16	9377	J. C. McArthur	16.00
9-16	9378	Mrs. Ada B. Newquist	24.00
9-16	9379	Mrs. Howard Neiswander	.50
9-16	9380	G. W. Nance	48.00
9-16	9381	Mrs. F. A. Nordblow	1.50
9-16	9382	Miller S. Nelson	30.00
9-16	9383	W. F. Otcheck	142.98
9-16	9384	O. Osborn	8.00
9-16	9385	Tom Oxenfield	9.00
9-16	9386	Ethel Outwater	7.00
9-16	9387	M. T. Phillips	20.00
9-16	9388	James Pedley	40.00
9-16	9389	J. T. Perry	4.50
9-16	9390	Matilda Peterson	26.50
9-16	9391	Ruth B. Pickell	5.00
9-16	9392	Claude A. Patterson	26.75
9-16	9393	Mrs. M. Parker	10.00
9-16	9394	E. L. Pearson	3.00
9-16	9395	W. H. Plows	133 47
9-16	9396	Edna M. Patzig	16.50
9-16	9397	A. L. Plummer	88.33
9-16	9398	Ida Perkins	9.00
9-16	9399	G. F. Packard	16.00
9-16	9400	Bertha Philpott	14 00
9-16	9401	John A. Peterson	1.00
9-16	9402	L. S. Papousek	1.00
9-16	9403	W. Patterson	12.00
9-16	9404	Lon Pollock	1.00
9-16	9405	Mrs. O. J. Perdue	6.50
9-16	9406	Hazel Plummer	13.00
9-16	9407	Vesta Plummer	16.00
9-16	9408	Erma Pratt	2.00

9-16	9409	P. M. Peterson	73.04
9-16	9410	Mrs. Grant Perkins	4.00
9-16	9411	Mabelle Perkins	5 .00
9-16	9412	Edna M. Patterson	2.00
9-16	9413	Mrs. S. E. Proudfit	22.00
9-16	9414	Mrs. E. H. Pickering	9.50
9-16	9415	Palisade Park Poultry Farm	3.50
9-16	9416	Walter Perkins	10.00
9-16	9417	Mrs. Chas. Pritzleff	2.00
9-16	9418	Mrs. Blair A. Quick	4.00
9-16	9419	Wm. F. Renk	146.00
9-16	9420	W. T. Roberts & Sons	17.00
9-16	9421	F. P. Robinson	7.00
9-16	9422	Geo. S. Redhead, Mgr	16.00
9-16	9423	Mrs. Mary Ross	51.00
9-16	9424	C. W. Reeder	14.00
9-16	9425	Mabel Reeder	2.00
9-16	9426	Hazel Reynolds	7.00
9-16	9427	Henry Rollinson	99.00
9-16	9428	Rogers Ranch	9.00
9-16	9429	Mrs. John A. Ryan	16.00
9-16	9430	F. L. Reinhard & Son	41.50
9-16	9431	C. R. Rauch	3.00
9-16	9432	D. W. Rich	20.00
9-16	9433	E. T. Roberts	10.00
9-16	9434	Oscar Rusted	6.00
9-16	9435	Ray Redfern	1.00
9-16	9436	Geo. Rawlings	2.00
9-16	9437	T. R. Ricksicker	19.00
9-16	9438	C. M. Rhynsburger	5.00
9-16	9439	Anna Roe	1.00
9-16	9440	Anna M. Redhead	21.00
9-16	9441	E. G. Roberts	123.50
9-16	9442	Maud L. Rice	1.00
9-16	9443	Minnie L. Rice	1.00
9-16	9444	Mrs. Adam Stirling	23.00
9-16	9445	S. A. Shetterly	10.00
9-16	9446	Mrs. C. E. Monahan	3.00
9-16	9447	W. W. Seeley	6.00
9-16	9448	Lawrence Stewart	9.00
9-16	9449	Audrey V. Sayre	13.25
9-16	9450	Mrs. Louise Smith	24.00
9-16	9451	Myrta Steers	22.50
9-16	9452	Frank Sar	16.00
9-16	9453	Philip Souers	8.00
9-16	9454	Mrs. Chas. I. Snyder	8.00
9-16	9455	Margaret A. Stattler	9.50
9-16	9456	Mrs. Alice Seymour	26.00

9-16	9457	Mrs. Horace Susong	8.00
9-16	9458	Anthony Stocker	10.00
9-16	9459	J. F. Seiberling	3.00
9-16	9460	C. B. Seiberling	2.00
9-16	9461	Irene Stoutenburgh	19.00
9-16	9462	J. C. Sandmeir	8.00
9-16	9463	Julius Sinn	31.00
9-16	9464	Anna L. Snyder	1.00
9-16	9465	Mrs. E. M. Sherman	4.00
9-16	9466	Otis W. Shetterly	125.28
9-16	9467	W. B. Sullivan	1.00
9-16	9468	Anna L. Snyder	1.00
9-16	9469	A. J. Smith	5.00
9-16	9470	B. Stewart	63.00
9-16	9471	B. Stuart	38.00
9-16	9472	Mrs. Armenia Sampey	50.00
9-16	9473	Bruno Sestier	30.00
9-16	9474	Sestier Bros.	69.00
9-16	9475	Mrs. Sol Stutsman	17.00
9-16	9476	Mildred Sargent	1.00
9-16	9477	J. Sundberg	1.00
9-16	9478	G. F. Statter	4.00
9-16	9479	Ethel M. Springer	13.00
9-16	9480	O. O. Smith	7.00
9-16	9481	Mrs. Frank V. Smith	3.00
9-16	9482	A. D. Severe	20.00
9-16	9483	U. R. Scholte	8.00
9-16	9484	Harrington V. Smith	1.00
9-16	9485	Will Steinwyk	2.00
9-16	9486	Harold M. Stowell	1.00
9-16	9487	Mrs. Walter Smith	5.00
9-16	9488	Mary Helen Smith	3.00
9-16	9489	D. Tietjen	67.00
9-16	9490	C. O. Thornburg	2.00
9-16	9491	Cyrus A. Tow	292.00
9-16	9492	I. Ross Thompson	10.00
9-16	9493	C. H. True	52.50
9-16	9494	W. M. Thompson	2.00
9-16	9495	Thos. Thompson	23.00
9-16	9496	Lillian M. Thornton	40.00
9-16	9497	Wm. Trillow	174.00
9-16	9498	Mrs. Nat Thompson	13.50
9-16	9499	Ruth Thompson	5.50
9-16	9500	J. L. Todd	86.00
9-16	9501	Mrs. Katherine Trouth	2.00
9-16	9502	L. A. Taylor	4.00
9-16	9503	W. H. Tapp	5.00
9-16	9504	Minta S. Tinney	4.00
9-16	9505	Mrs. W. D. Tapp	31.50

9-16	9506	Marguerite Tapp	10.00
9-16	9507	Mrs. F. D. Thompson	5.00
9-16	9508	M. J. Thomas	5.00
9-16	9509	Ida A. Towne	1.00
9-16	9510	Mrs. M. L. Toland	4.00
9-16	9511	Mack Utterback	40.00
9-16	9512	W. S. Van Natta & Son	531.00
9-16	9513	L. C. West	7.00
9-16	9514	B. B. Welty	10.00
9-16	9515	C. J. Wilkinson	10.00
9-16	9516	C. R. Wells	110.00
9-16	9517	Geo. M. Wright	110.00
9-16	9518	Kenneth West	2.00
9-16	9519	Flora Wolter	7.50
9-16	9520	Emma Wolter	44.50
9-16	9521	Mrs. S. T. Wheeler	1.50
9-16	9522	Mrs. John Wilkinson	1.00
9-16	9523	Geo. S. Woodruff	27.00
9-16	9524	Hazel Wheeler	10.00
9-16	9525	F. F. and V. G. Warner	69.50
9-16	9526	R. E. Ward	6.00
9-16	9527	R. E. West	40.50
9-16	9528	A. Wick	5.00
9-16	9529	Mrs. Margaret White	7.00
9-16	9530	E. and A. Walrath	6.50
9-16	9531	Louise Webster	4.00
9-16	9532	Rev. S. N. Woodward	5.50
9-16	9533	Mrs. Ella Wells	60.00
9-16	9534	Irene Wilson	31.00
9-15	9535	Mildred Williams	1.00
9-16	9536	J. S. Wilson Floral Company	205.00
9-16	9537	A. M. Walrath	3.00
9-16	9538	J. C. Watts	6.00
9-16	9539	M. J. Wragg	43.50
9-16	9540	Mrs. Joseph Wells	8.00
9-16	9541	E. O. Worth	77.75
9-16	9542	M. J. Worth	13.00
9-16	9543	Marie Wagner	1.00
9-16	9544	Richard Woodruff	7.00
9-16	9545	A. Ella West	1.00
9-16	9546	Helen White	7.00
9-16	9547	Mrs. H. G. Whelpton	2.00
9-16	9548	Mrs. H. M. Wagner	1.00
9-16	9549	Mrs. J. A. Young	5.00
9-16	9550	Guy Zeller	30.00
9-16	9551	Wm. Zeller	26.00
9-16	9552	Mrs. G. M. Grinstead	38.50
9-16	9553	Pearl Garrison	7.00
9-16	9554	Mrs. R. A. Lewis	76.80

9-16	9555	J. L. Stittsworth	4.00
9-16	9556	Dorthea Tomlinson	2.00
9-16	9557	J. S. Fawcett & Son	5.00
9-18	9558	Milt S. Mooney	30.00
9-22	9559	Gertrude Brereton	3.00
9-22	9560	Pauline Holland	2.00
9-22	9561	J. R. Peak & Son	715.00
9-22	9562	Otto V. Battles	341.00
9-25	9563	Stock Yards Harness & Saddlery Co	100.00
9-25	9564	C. F. Curtiss, Dean, I. S. C	600 00
9-25	9565	Ryle S. McKee	50.00
9-25	9566	A. R. Corey, Acting Secretary	200.00
9-30	9567	A. R. Corey, Acting Secretary	627.00
9-30	9568	C. R. Wells	5.00
10- 2	9569	H. H. Schroedermier	25.00
10- 2	9570	J. L. Hook	10.00
10- 2	9571	Frank White	50.00
10- 2	9572	Smith & Roberts	30.00
10- 2	9573	Allynhurst Farm	20.00
10- 2	9574	M. E. Henry	1.00
10- 9	9575	Mary G. Cretzmeyer	23.00
10- 9	9576	Chas. Blodgett	22.00
10- 9	9577	Eva A. Webb	22.00
10- 9	9578	Caroline Forgrave	2 00
10- 9	9579	Angus McDonald	26.00
10- 9	9580	A. Palmer	34.00
10- 9	9581	Garrah Packer	10.00
10- 9	9582	Ruth Beam	10.00
10- 9	9583	Z. C. Thornburg	176.00
10- 9	9584	Jessie Field	15 00
10- 9	9585	Jennie Steele Huegle	27.00
10- 9	9586	L. A. Sell	50.00
10- 9	9587	O. E. Gunderson	2 00
10- 9	9588	M. L. Howell	73.00
10- 9	9589	Chas. Giller & Son	30.00
10- 9	9590	Mary L. Horton	40.00
10- 9	9591	C. G. Patten	50.00
10- 9	9592	Peter Hove	2.00
10- 9	9593	Wib F. Clements	2.00
10- 9	9594	F. F. & V. G. Warner	4.00
10- 9	9595	J. R. McDonald	2.00
10- 9	9596	E. and A. Walrath	4.00
10- 9	9597	Israel Drought	2.00
10- 9	9598	Miss E. M. Brinckler	2.00
10- 9	9599	R. A. Lundberg	2.00
10- 9	9600	C. W. Howell	2 00
10- 9	9601	Jas. H. Jones	2.00
10- 9	9602	Frances Dorrell	2.00
10- 9	9603	F. L. Rhinehart	2.00

10-11	9604	Mrs. E. B. Norris	2.00
10-13	9605	C. L. Shannon	7.00
10-16	9606	A. R. Corey, Acting Secretary	171.00
10-17	9607	R. M. Anderson & Sons	4.00
10-20	9608	Cruzan & Company	75.00
10-20	9609	Iowa Auto & Supply Company	50.00
10-20	9610	F. C. Harley	25.00
10-21	9611	Fred Williams	13.00
10-21	9612	Angus McDonald	1.00
10-23	9613	C. W. McDermott	115.00
10-23	9614	Finch Bros.	95.00
10-23	9615	Charles Irvine	75.00
10-23	9616	R. F. French	55.00
10-23	9617	Henry Lefebure	35.00
10-23	9618	A. R. Corey, Acting Secretary	25.00
10-23	9619	A. R. Corey, Acting Secretary	100.00
11-11	9620	W. V. Hixson	20.00
11-11	9621	John Leitch	22.00
11-11	9622	Mrs. John Leitch	8.00
11-11	9623	McLay Bros.	63.00
11-11	9624	David Roth	12.00
		Total	$ 56,264.35

EXPENSE WARRANTS ISSUED DECEMBER 1, 1910, TO NOVEMBER 30, 1911.

12- 8	8423	A. O. Shepfer, premium 1910 fair	$ 3.00
12-16	8424	C. E. Cameron, expense Chicago meeting	40.46
12-16	8425	W. C. Brown, expense Chicago meeting	38.00
12-16	8426	J. C. Simpson, expense Chicago meeting	37.00
12-16	8427	John Ledgerwood, expense Chicago meeting	33.10
12-16	8428	C. E. Cameron, per diem and mileage, December meeting	38.00
12-16	8429	W. C. Brown, per diem and mileage December meeting	22.20
12-16	8430	R. S. Johnston, per diem and mileage December meeting	39.80
12-16	8431	E. M. Reeves, per diem and mileage December meeting	36.30
12-16	8432	E. J. Curtin, per diem and mileage December meeting	43.50
12-16	8433	E. M. Wentworth, per diem and mileage December meeting	30.00
12-16	8434	T. C. Legoe, per diem and mileage December meeting	32.50
12-16	8435	C. F. Curtiss, per diem and mileage December meeting	27.70
12-16	8436	John Ledgerwood, per diem and mileage December meeting	30.40

12-16	8437	F. E. Sheldon, per diem and mileage December meeting	12.00
12-16	8438	John F. Summers, per diem and mileage December meeting	12.00
12-16	4839	O. A. Olson, per diem and mileage December meeting	39.50
12-16	8440	H. L. Pike, per diem and mileage December meeting	44.00
12-16	8441	Chas. Escher, Jr., per diem and mileage December meeting	22.00
12-16	8442	R. S. Johnston, expense Chicago meeting	15.40
12-16	8443	H. L. Pike, expense Chicago meeting and Minn. State Fair	73.02
12-16	8444	O. A. Olson, expense Chicago meeting and Minn. State Fair	52.80
12-16	8445	C. & N. W. Ry. Co., freight bill 1910 fair	.40
12-16	8446	Iowa State College of Agriculture & Mechanic Arts, one-half expense of college exhibit, 1910 fair	15.02
12-19	8447	H. W. Mumford, expense speaker state farmers' institute	25.00
12-19	8448	H. J. Waters, expense speaker state farmers' institute	20.90
12-19	8449	John T. Stinson, expense speaker state agricultural convention	20.00
12-19	8450	W. L. Brown, hotel bill of speakers	7.55
12-21	8451	C. E. Cameron, Executive committee meeting	22.00
12-22	8452	J. C. Simpson, Sec'y, pay roll grounds dept	78.00
12-24	8453	Clarence Sweeney, saw dust, 1910,	52.00
12-24	8454	Des Moines Bridge & Iron Works, bal. on amphitheater contract	1,114.31
12-24	8455	Des Moines Bridge & Iron Works, bal. on amphitheater contract	43.16
12-27	8456	R. J. Kinzer, expense speaker state farmers' institute	20.10
12-27	8457	John Hamilton, due Am. Ass'n Farmers' Institute Workers, 1910	5.00
12-31	8458	J. C. Simpson, extra services member and clerk Executive committee	150.00
12-31	8459	Elsie Colton, salary for December	100.00
1- 3	8460	Jas. H. Deemer, Supt., salary for December	83.33
1- 3	8461	A. R. Corey, salary for December	125.00
1- 7	8462	C. E. Cameron, special committee work	26.00
1-14	8463	R. S. Johnston, special committee work	27.80
1-14	8464	C. E. Cameron, meeting executive committee	26.00
1-14	8465	John Ledgerwood, meeting executive committee	18.40
1-14	8466	H. L. Pike, special committee work	32.00
1-16	8467	J. C. Simpson, pay roll, grounds dept	163.40
1-20	8468	Robt. F. Hildebrand, photographs, 1910 fair	125.00
1-20	8469	The Indianola Record, advertising 1910 fair	7.00
1-20	8470	The Wellman Advance, advertising 1910 fair	6.60
1-20	8471	L. S. Casner, wheat straw, forage dept	47.23
1-23	8472	E. J. Curtin, special committee work	31.50

1-23	8473	J. F. Summers, special committee work	28.00
1-23	8474	C. E. Cameron, per diem and mileage, January meeting	42.00
1-23	8475	John Ledgerwood, per diem and mileage January meeting	30.40
1-23	8476	R. S. Johnston, per diem and mileage January meeting	27.80
1-23	8477	C. W. Phillips, per diem and mileage January meeting	33.00
1-23	8478	E. M. Reeves, per diem and mileage January meeting	24.30
1-23	8479	E. J. Curtin, per diem and mileage January meeting	35.50
1-23	8480	E. M. Wentworth, per diem and mileage January meeting	18.00
1-23	8481	C. F. Curtiss, per diem and mileage January meeting	15.70
1-23	8482	F. E. Sheldon, per diem and mileage January meeting	32.50
1-23	8483	J. F. Summers, per diem and mileage January meeting	28.00
1-23	8384	O. A. Olson, per diem and mileage January meeting	27.50
1-23	8485	H. L. Pike, per diem and mileage January meeting	32.00
1-28	8486	C. W. Decker, sawdust, 1910 fair	14.00
1-28	8487	J. C. Simpson, Sec'y, pay roll grounds dept	141.35
1-31	8488	J. C. Simpson, extra services member and clerk executive committee	150.00
1-31	8489	A. R. Corey, salary for January	125.00
1-31	8490	Elsie Colton, salary for January	100.00
1-31	8491	Edith K. Smith, extra clerical service	25.00
1-31	8492	Jas. H. Deemer, salary for January	83.33
2- 2	8493	Billboard Publishing Co., subscription 2-4-11 to 2-4-12	4.00
2- 3	8494	C. E. Cameron, executive committee meeting	30.00
2- 3	8495	John Ledgerwood, executive committee meeting	22.40
2-16	8496	John Ledgerwood, executive committee meeting	26.40
2-16	8497	C. E. Cameron, executive committee meeting	34.00
2-16	8498	C. E. Cameron, expense at Sioux City meeting	7.54
2-18	8499	P. O. Weaver, corn forage dept	17.60
2-18	8500	A. R. Corey, acting Sec'y pay roll grounds dept	36.30
2-18	8501	Chicago Daily Farmers & Drovers Journal, subscription	4.00
2-18	8502	Walter Irish, reporting annual meeting	15.10
2-18	8503	Iowa Telephone Co., toll bills Ames station	2.65
2-18	8504	Western Union Telegraph Co., Nov. Dec. & Jan. bills	10.15
2-18	8505	Wells Fargo Express Co., Nov. bill	.25
2-21	8506	R. L. Polk & Co., city directory	6.00
2-21	8507	J. I. Myerly, P. M., postage	50.00
2-23	8508	C. E. Cameron, meeting executive committee	34.00
2-23	8509	John Ledgerwood, meeting executive committee	26.40

2-23	8510	H. L. Pike, special committee meeting	32.00
2-28	8511	Elsie Colton, salary for February	100.00
2-28	8512	Jas. H. Deemer, salary for February	83.33
2-28	8513	O. C. Simonds, balance on contract, ground plans	1,000.00
3- 3	8514	C. F. Curtiss, special committee work	15.40
3-10	8515	Iowa Trust & Savings Bank, postage stamps	5.00
3-11	8516	A. R. Corey, Acting Sec'y, pay roll grounds dept	64.20
3-16	8517	John Ledgerwood, special committee work	26.40
3-20	8518	Hawkeye Press Clipping Bureau, five months service	20.00
3-22	8519	W. C. Brown, expense attending attraction meeting	27.50
3-23	8520	Dale Taxicab service, auto rental	26.00
3-25	8521	C. F. Curtiss, expense attending attraction meeting	28.30
3-25	8522	C. E. Cameron, expense attending attraction meeting	37.47
3-25	8523	C. E. Cameron, special committee work	26.00
3-25	8524	A. R. Corey, expense attending attraction meeting	27.50
3-30	8525	C. E. Cameron, executive committee meeting	26.00
3-30	8526	John Ledgerwood, executive committee meeting	26.40
3-31	8527	East Des Moines Commercial League, annual dues	5.00
3-31	8528	Jas. H. Deemer, salary for March	83.33
3-31	8529	Elsie Colton, balance salary for March	25.00
3-31	8530	A. R. Corey, Acting Sec'y, pay roll grounds dept	26.00
4- 4	8531	C. E. Cameron, per diem and mileage April meeting	26.00
4- 4	8532	John Ledgerwood, per diem and mileage April meeting	18.40
4- 4	8533	R. S. Johnston, per diem and mileage April meeting	27.80
4- 4	8534	C. W. Phillips, per diem and mileage April meeting	33.00
4- 4	8535	Elmer M. Reeves, per diem and mileage Arpil meeting	24.30
4- 4	8536	E. J. Curtin, per diem and mileage April meeting	31.50
4- 4	8537	E. M. Wentworth, per diem and mileage April meeting	18.00
4- 4	8538	T. C. Legoe, per diem and mileage Arpil meeting	20.50
4- 4	8539	C. F. Curtiss, per diem and mileage April meeting	15.70
4- 4	8540	F. E. Sheldon, per diem and mileage April meeting	24.30
4- 4	8541	O. A. Olson, per diem and mileage April meeting	27.50
4- 4	8542	H. L. Pike, per diem and mileage April meeting	32.00
4- 8	8543	C. F. Curtiss, special committee work	15.40
4- 8	8544	S. Davidson Bros., balance on account	3.10
4-11	8545	A. R. Corey, Acting Sec'y, pay roll ground dept	25.00
4-11	8546	Iowa Trust & Savings Bank, check of J. W. Sumner	53 60
4-13	8547	C. E. Cameron, executive committee meeting	30.00
4-12	8548	J. I. Myerly, P. M., postage	50.00
4-14	8549	Des Moines Daily News, subscription 1-11-10 to 1-1-11	3.60
4-24	8550	A. R. Corey, Acting Sec'y, pay roll grounds dept.	164.05
4-27	8551	W. C. Brown, privilege work	14.50
4-29	8552	Jas. H. Deemer, salary for April	83.33

4-29	8553	Edith K. Smith, extra clerk and stenographer....	63.00
4-29	8554	C. A. Nash, salary for April....................	33.00
4-29	8555	Pacific Express Co., express on tickets............	2.98
4-29	8556	U. S. Express Co., express bill Feb. and Mch.....	2.65
4-29	8557	American Express Co., express bill for Feb.......	5.40
4-29	8558	Western Union Telegraph Co., telegrams Feb. and Mch.	6.94
4-29	8559	Adams Express Co., express bill Feb. and March..	3.57
4-29	8560	D. E. Moon Printing Co., printing envelopes for board	42.50
4-29	8561	American Trotting Register Ass'n, Vol. 26 Year Book	5.00
4-29	8562	Chas. Koenigsberger & Son, harness repairs and supplies	7.40
4-29	8563	Des Moines Commercial Club, dues 1911..........	15.00
4-29	8564	Backman Sheet Metal Works, sheet metal work on amphitheater	4.00
4-29	8565	Ben Woolgar, horse shoeing	8.00
4-29	8566	Savery Hotel Co., hotel bill 1910 fair............	10.25
4-29	8567	E. D. Chassell, binding award books	5.00
4-29	8568	The Jersey Bulletin, subscription 2-1-11 to 2-1-12..	1.00
4-29	8569	Des Moines Water Co., water bills Nov. to Mch. inclusive	27.38
4-29	8570	Iowa Telephone Co., toll bill, Ames Station	.50
4-29	8571	Iowa Telephone Co., 'phone rental and toll bills...	18.45
4-29	8572	Elsie Colton, salary for April	100.00
5- 3	8573	Register & Leader, subscription 2-1-11 to 2-1-12....	6.00
5- 3	8574	Billboard Publishing Co., advertising	11.00
5- 3	8575	J. I. Myerly, P. M., postage 2M "Greater Iowa"....	20.00
5- 5	8576	J. I. Myerly, P. M., postage 2M "Greater Iowa"....	20.00
5- 6	8577	W. C. Brown, privilege work	45.20
5- 6	8578	J. P. Mullen, special committee work	27.70
5- 6	8579	C. E. Cameron, executive committee meeting......	34.00
5- 6	8580	O. A. Olson, executive committee meeting	35.50
5- 8	8581	A. R. Corey, Acting Sec'y, pay roll grounds Dept..	132.39
5- 8	8582	F. Wright, straw, forage department	10.87
5- 9	8583	J. I. Myerly, P. M., postage	40.00
5- 9	8584	Jas. Atkinson, corn, forage department..........	18.12
5-15	8585	J. H. Deemer, plow repairs	3.50
5-19	8586	C. E. Cameron, executive committee meeting......	30.00
5-19	8587	O. A. Olson, executive committee meeting........	31.50
5-19	8588	E. J. Curtin, special committee work............	31.50
5-19	8589	Geo. A. Miller Printing Co., printing............	108.25
5-20	8590	Jas. Horrabin, first estimate on culvert	1,000.00
5-20	8591	C. F. Curtiss, special committee work	7.70
5-22	8592	A. R. Corey, Acting Sec'y, pay roll grounds department	252.17
5-23	8593	A. R. Corey, special committee work	17.70
5-24	8594	Jas. Horrabin, second estimate on culvert	1,000.00
5-29	8595	A. R. Corey, special committee work	19.38

6- 1	8596	C. & N. W. Ry. Co., freight on fencing	27.60
6- 1	8597	J. I. Myerly, P. M., postage	40.00
6- 1	8598	Elsie Colton, salary for May	100.00
6- 1	8599	J. H. Deemer, salary for May	83.33
6- 1	8600	C. A. Nash, salary for May	90.00
6- 2	8601	J. I. Myerly, P. M., postage 2M "Greater Iowa"	20.00
6- 3	8602	J. I. Myerly, P. M., postage 2M "Greater Iowa"	20.00
6- 3	8603	S. Joseph & Sons, two watches, premiums in dairy department 1910 Fair	40.00
6- 3	8604	Interstate Realty Co., eight lots Redhead Addition	800.00
6- 3	8605	C. E. Cameron, executive committee meeting	30.00
6- 3	8606	O. A. Olson, executive committee meeting	31.50
6- 3	8607	Jas. Horrabin, third estimate on culvert	750.00
6- 5	8608	A. R. Corey, Acting Sec'y, pay roll grounds department	388.14
6- 6	8609	Spirit of the West, advertising speed program	62.50
6- 9	8610	J. E. Lovejoy, first estimate on machinery building	3,835.00
6-15	8611	Greater Des Moines Driving Club, advertising race program	6.00
6-15	8612	Des Moines Commercial Club, reservation trade excursion	35.00
6-16	8613	Interstate Realty Co., additional land	275.00
6-16	8614	Louis Kurtz, P. M., postage 2400 premium lists	72.00
	8615	Void.	
6-16	8616	C. E. Cameron, executive committee meeting	38.00
6-16	8617	O. A. Olson, executive committee meeting	39.50
6-16	8618	J. F. Summers, special committee work	32.00
6-16	8619	J. F. Summers, special committee work	28.00
6-17	8620	T. C. Legoe, auditing committee meeting	20 50
6-17	8621	Louis Kurtz, P. M., postage	40.00
6-19	8622	A. R. Corey, Acting Sec'y, pay roll grounds department	567.43
6-19	8623	Dale Taxicab Service, auto rental	8.00
6-20	8624	H. M. Kinsell, moving building on fair grounds	80.00
6-20	8625	Louis Kurtz, P. M., postage 2,250 premium lists	67.50
6-24	8626	W. C. Brown, privilege work	57.20
6-24	8627	E. A. Peterson, painting roof stock pavilion	60.00
6-26	8628	O. O. Smith, first payment architect fees	1,000.00
6-26	8629	C. & N. W. Ry. Co., freight on bbl. paint	2.12
6-26	8630	C., B. & Q. Ry., freight on paint	1.02
6-26	8631	Louis Kurtz, P. M., postage on 2M premium lists	60.00
6-28	8632	Louis Kurtz, P. M., postage	40.00
6-28	8633	E. A. Peterson, painting roof street car entrance	12.00
6-30	8634	The American Contractor, advertising for bids, machinery building	15.39
6-30	8635	Adams Express Co., express bills April and May	.97
6-30	8636	American Express Co., express bills April and May	2.40
6-30	8637	Des Moines Daily Capital, advertising for bids, machinery building	15.75

6-30	8638	Des Moines Daily News, advertising for bids, machinery building	9.50
6-30	8639	Des Moines Admens' Club, annual dues, 1911	10.00
6-30	8640	Ferguson Printing Co., printing	53.25
6-30	8641	Improvement Bulletin, advertising for bids, machinery bldg.	10.80
6-30	8642	Marshalltown Buggy Co., poles and lumber	10.00
6-30	8643	Shaver Carriage Co., tires on spreader	4.00
6-30	8644	Tablet & Ticket Co., 8M gummed labels	8.24
6-30	8645	U. S. Express Co., express bills, April and May	1.34
6-30	8646	Western Union Telegraph Co., telegrams, April and May	6.90
6-30	8647	M. J. Wragg Nursery Co., trees for grounds	11.60
6-30	8648	Wells Fargo Express Co., express bills, April and May	2.05
6-30	8649	Elsie Colton, salary for June	100.00
6-30	8650	Edith K. Smith, salary for June	75.00
6-30	8651	Jas. H. Deemer, salary for June	83.33
6-30	8652	Clifford C. Heer, salary, June 12 to 30, inclusive	38.25
6-30	8653	C. A. Nash, salary for June	90.00
6-30	8654	C. E. Cameron, executive committee meeting	26.00
6-30	8655	Jas. Horrabin, first estimate on grading, machinery bldg.	1,500.00
7- 1	8656	Louis Kurtz, P. M., postage on 2M premium lists	60.00
7- 1	8657	C. N. McIlvaine, pro rata share circuit advertising	47.06
7- 3	8658	S. E. Webster, straw, forage department	36.92
7- 3	8659	A. R. Corey, Acting Secretary, pay roll, grounds department	569.38
7- 6	8660	Louis Kurtz, P. M., postage	40.00
7- 6	8661	C. G. W. Ry. Co., freight on straw	12.40
7- 7	8662	Louis Kurtz, P. M., postage, 2M "Greater Iowa"	20 00
7- 8	8663	Louis Kurtz, P. M., postage, 2M "Greater Iowa"	20.00
7- 8	8664	Massillon Bridge & Structural Co., first estimate steel work, machinery bldg.	7,000.00
7- 8	8665	J. E. Lovejoy, second estimate, general contract, machinery bldg.	9,459.80
7-10	8666	C. E. Cameron, executive committee meeting	26.00
7-10	8667	O. A. Olson, executive committee meeting	27.50
7-13	8668	Ed Stuart, oats, forage department	36.55
7-13	8669	A. Olson, laying shingles, speed barns	49.42
7-14	8670	W. O. Plummer, corn, forage department	25.45
7-15	8671	Iowa Lithograph Co., printing	61.55
7-15	8672	Matt Parrott & Sons, outdoor advertising signs	133.28
7-17	8673	A. R. Corey, Acting Secretary, pay roll, grounds department	594.15
7-18	8674	Louis Kurtz, P. M., postage	40.00
7-20	8675	James Horrabin, second estimate on grading, machinery bldg.	2,000.00
7-26	8676	C. E. Cameron, special committee work	56.08
7-27	8677	Louis Kurtz, P. M., postage	40.00

7-27	8678	O. A. Olson, executive committee meeting	39.50
7-27	8679	C. E. Cameron, executive committee meeting	42.00
7-27	8680	J. P. Mullen, special committee work	23.70
7-27	8681	W. T. Gray, straw, forage department	71.03
7-27	8682	Frank McCoy, freight on paint	.52
7-28	8683	C. & N. W. Ry. Co., freight on school exhibits	.52
7-28	8684	C., R. I. & P. Ry. Co., freight on tan bark	72.13
7-28	8685	Pray & Comerford, first estimate on plumbing, closets	4,000.00
7-31	8686	Elsie Colton, salary for July	100.00
7-31	8687	Jas. H. Deemer, salary for July	83.33
7-31	8688	C. C. Heer, extra clerk, July	62.50
7-31	8689	Edith Williams, extra clerk, 16 days	36.00
7-31	8690	Dow Byers, extra clerk, 7 days	14.00
7-31	8691	Paul Davidson, extra clerk, 23 days	23.00
7-31	8692	C. A. Nash, salary for July	90.00
7-31	8693	Louis Kurtz, P. M., postage, 4,800 "Greater Iowa"	48.00
8- 3	8694	A. R. Corey, Acting Secretary, pay roll, grounds department	965.10
8- 4	8695	St. P. & D. M. Ry. Co., freight on straw	55.74
8- 4	8696	L. A. Murrow, clover hay, forage department	201.15
8- 5	8697	Potts Bros., first estimate on cement walks	400.00
8- 5	8698	M. L. Markham, distributing advertising matter	15.00
8- 5	8699	Nick Murrow, straw, forage department	161.15
8- 5	8700	E. H. Courtney, laying shingles on cattle barn	34.00
8- 5	8701	J. W. Richards, advertising, Audubon county	12.00
8- 5	8702	C. H. Wegerslev, advertising, Buena Vista county	30.00
8- 5	8703	C. Carl, advertising, Dallas county	15.00
8- 5	8704	J. R. Sterling, advertising, Hamilton county	15.00
8- 5	8705	Wm. P. Dermer, advertising, Webster county	25.00
8- 5	8706	G. A. Minnich, advertising, Carroll county	15.00
8- 5	8707	C., R. I. & P. Ry. Co., freight on straw, forage department	21.40
8- 7	8708	A. Olson, laying shingles on horse barn	52.20
8- 7	8709	Louis Kurtz, P. M., postage	60.00
8- 8	8710	C. Latham, scavenger work	20.00
8- 9	8711	O. A. Olson, executive committee meeting	31.50
8- 9	8712	C., R. I. & P. Ry. Co., freight on straw, forage department	21.70
8- 9	8713	C., R. I. & P. Ry. Co., freight on road oil	114.11
8- 9	8714	R. L. Allen, advertising, Wright county	14.00
8- 9	8715	W. H. Reed, advertising, Kossuth county	15.00
8- 9	8716	C. D. Williams, advertising, Franklin county	10.00
8-10	8717	Geo. A. Miller Printing Co., first payment on tickets	150.00
8-11	8718	Wilson Bros., hay, forage department	177.12
8-11	8719	Wilson Bros., hay, forage department	320.63
8-11	8720	Louis Kurtz, P. M., postage	60.00
8-11	8721	J. P. Mullen, special committee work	27.70
8-12	8722	J. A. Wakefield, laying shingles on cattle barn	34.06

8-12	8723	R. S. Johnston, special committee work..........	23.80
8-12	8724	R. S. Johnston, special committee work..........	31.80
8-12	8725	C., R. I. & P. Ry. Co., freight on turnstiles and ticket choppers	2.05
8-12	8726	John Micksell, laying shingles on cattle barn......	34.06
8-12	8727	C. E. Cameron, executive committee meeting.....	46.00
8-12	8728	F. E. Sheldon, special committee work............	20.30
8-12	8729	F. E. Sheldon, special committee work...........	28.30
8-12	8730	H. L. Pike, special committee work..............	32.00
8-12	8731	H. L. Pike, special committee work...............	32.00
8-14	8732	A. R. Corey, Acting Secretary, pay roll, grounds department	2,316.24
8-14	8733	M. Walrath, laying shingles on cattle barns......	17.25
8-14	8734	A. Olson, laying shingles on cattle barns..........	34.37
8-14	8735	E. M. Wentworth, special committee work........	18.00
8-14	8736	J. E. Lovejoy, third estimate, general contract, machinery bldg.	13,162.00
8-14	8737	F. E. Meredith, advertising, Jasper county........	20.00
8-14	8738	T. E. Grisell, advertising, Guthrie county........	12.00
8-14	8739	C. K. Nelson, advertising, Winnebago county.....	10.00
8-14	8740	Henry E. Gerdes, advertising, Wayne county.....	15.00
8-14	8741	F. H. Houghton, advertising, Marshall county.....	15.00
8-14	8742	A. G. Rigby, advertising, Buchanan county........	15.00
8-14	8743	A. B. Turner, advertising, Hancock county.......	12.00
8-14	8744	C. C. Ward, advertising, Lucas county.............	15.00
8-15	8745	C., R. I. & P. Ry. Co., freight on hay, forage department	31.00
8-15	8746	Wilson Bros., hay, forage department...........	586 60
8-15	8747	W. E. West, wheat straw, forage department....	117.00
8-15	8748	Louis Kurtz, P. M., postage......................	60.00
8-16	8749	H. M. Kinsell, moving building, fair grounds......	75.00
8-17	8750	David Daniels, laying shingles on cattle barns.....	17.04
8-17	8751	O. A. Olson, executive committee meeting........	27.50
8-17	8752	C. & N. W. Ry. Co., freight on electric fixtures.....	3.70
8-18	8753	A. J. Williams, repairing lock, Grand avenue gate.	1.50
8-18	8754	G. S. Gilbertson, Treasurer, 200 general admission tickets, account trade advertising, Daily News..	100.00
8-18	8755	Wesley Greene, laying out and planting flower beds	35.00
8-18	8756	C., B. & Q. Ry. Co., freight on gates...............	2.00
8-19	8757	C., R. I. & P. Ry. Co., freight on forage and tickets	22.78
8-19	8758	Fred Hudson, folding "Greater Iowa," ¾ day....	.75
8-19	8759	Harlan Reese, folding "Greater Iowa," ¾ day....	.75
8-19	8760	Louis Kurtz, P. M., postage, 2,350 "Greater Iowa"..	23.50
8-19	8761	John Hartzler, straw, forage department.........	53.20
8-19	8762	Louis Kurtz, P. M., postage, 2,350 "Greater Iowa"..	23.50
8-21	8763	M. L. Markham, distributing advertising..........	10.00
8-21	8764	Robt. Hicks, hay, forage department.............	183.21
8-21	8765	C. J. Hartman, laying shingles, cattle barns......	72.50
8-21	8766	A. Olson, laying shingles, cattle barns...........	37.50

8-21	8767	Jas. Horrabin, third estimate, grading contract....	1,500.00
8-21	8768	J. E. Lovejoy, first estimate, closet contract, amphitheater	2,000.00
8-21	8769	O. O. Smith, second payment, architect fees, machinery bldg.	1,000.00
8-21	8770	Pray & Comerford, second estimate, plumbing contract	1,000.00
8-21	8771	Massillon Bridge & Structural Co., second estimate, steel contract, machinery bldg..........	20,000.00
8-22	8772	Interstate Realty Co., additional land..........	1,300.00
8-22	8773	H. M. Kinsell, reloading and moving closets.......	35.00
8-23	8774	Farm Sense, advertising..........	71.25
8-24	8775	Geo. A. Miller Printing Co., second payment on tickets	150.00
8-25	8776	Chas. Morrison, straw, forage department........	20.47
8-25	8777	Pain Fireworks Co., first payment, fireworks contract	400.00
8-28	8778	Pain Fireworks Co., second payment, fireworks contract	600.00
8-29	8779	Pain Fireworks Co., third payment, fireworks contract	1,500.00
8-29	8780	A. R. Corey, Acting Secretary, pay roll, grounds department	2,890.80
8-30	8781	Pain Fireworks Co., fourth payment, fireworks contract	1,000.00
8-30	8782	Grant Fort, straw, forage department..........	67.96
8-30	8783	F. M. Barnes, Inc., first payment, vaudeville attractions	800.00
8-30	8784	F. M. Barnes, Inc., second payment, vaudeville attractions	1,750.00
8-30	8785	Allie T. Wooster, first payment, attraction contract	200.00
8-30	8786	E. N. Wentworth, pay roll and expense, boys' judging contest	45.90
8-30	8787	C., R. I. & P. Ry. Co., freight on hay, forage department	10.00
8-30	8788	L. Greene, ¼ expense apple packing school.......	66.24
8-30	8789	J. L. Reid, judging Short Horn cattle..........	250.00
8-30	8790	F. D. Van Gundy, clover hay, forage department..	298.76
8-30	8791	Storm Lake Concert Band, first payment, band contract	100.00
8-30	8792	S. E. McKinley, straw, forage department........	135.68
8-31	8793	P. Conway, first payment, band contract..........	500.00
8-31	8794	Pain Fireworks Co., fifth payment, fireworks contract	2,000.00
8-31	8795	W. E. Dean, five dozen brooms, grounds..........	21.25
9- 1	8796	Pain Fireworks Co., final payment, fireworks contract	1,000.00
9- 1	8797	P. Conway, final payment, band contract..........	2,000.00
9- 1	8798	Allie T. Wooster, second payment, attraction contract	100.00
9- 1	8799	Iowa Military Band, band contract..........	850.00
9- 1	8800	Austin McFadden, Ray Harroun, racing team.....	500.00
9- 1	8801	Wright Bros. Co., aeroplane contract..........	4,583.33

9- 1	8802	M. W. Cripliver, property man	25.15
9- 1	8803	J. M. Duncan, property man	25.15
9- 1	8804	Dan Davis, special detective	88.76
9- 1	8805	Allie T. Wooster, full payment, attraction contract	1,500.00
9- 1	8806	Galt Kiltie Band, first payment, band contract	1,620.00
9- 1	8807	Galt Kiltie Band, balance on band contract	1,100.00
9- 2	8808	C. E. Cameron, per diem and mileage, August meeting	98.00
9- 2	8809	O. A. Olson, per diem and mileage, August meeting	99.50
9- 2	8810	R. S. Johnston, per diem and mileage, August meeting	99.80
9- 2	8811	C. W. Phillips, per diem and mileage, August meeting	105.00
9- 2	8812	E. M. Reeves, per diem and mileage, August meeting	96.30
9- 2	8813	E. J. Curtin, per diem and mileage, August meeting	103.50
9- 2	8814	E. M. Wentworth, per diem and mileage, August meeting	90.00
9- 2	8815	T. C. Legoe, per diem and mileage, August meeting	92.50
9- 2	8816	Chas. F. Curtiss, per diem and mileage, August meeting	87.70
9- 2	8817	F. E. Sheldon, per diem and mileage, August meeting	96.30
9- 2	8818	J. F. Summers, per diem and mileage, August meeting	100.00
9- 2	8819	J. P. Mullen, per diem and mileage, August meeting	95.70
9- 2	8820	H. L. Pike, per diem and mileage, August meeting	104.00
9- 2	8821	G. S. Gilbertson, per diem, August meeting	24.00
9- 2	8822	A. R. Corey, per diem, August meeting	24.00
9- 2	8823	Milt S. Mooney, full payment, attraction contract	750.00
9- 2	8824	W. C. Brown, services superintendent concession department	500.00
9- 2	8825	Central Decorating Co., decorating buildings	414.52
9- 2	8826	J. F. Summers, special committee work	32.00
9- 2	8827	W. C. Brown, office expense, concession department	21.00
9- 4	8828	A. Olson, cleaning amphitheater, six days	90.00
9- 5	8829	Long & McElvogue, wheat straw, forage department	125.20
9- 5	8830	J. H. Long and Thos. McDole, full payment, garbage contract	160.00
9- 6	8831	Jas. Latham, full payment, scavenger contract	100.00
9- 7	8832	C. A. Nash, salary for August	90.00
9- 7	8833	Elsie Colton, salary for August	100.00
9- 7	8834	Jas. H. Deemer, salary for August	83.33
9- 7	8835	Wilson Bros., clover hay, forage department	145.77
9- 7	8836	Jesse Alexander, hay, forage department	85.81
9- 7	8837	Chas. Porter, advertising, Marion county	12.00

9- 8	8838	Iowa State Register & Farmer, advertising	200.00
9- 8	8839	Albert Henry, hay, forage department	100.40
9- 8	8840	O. A. Olson, Supt., pay roll, admission department	2,515.50
9- 8	8841	H. L. Pike, Supt., pay roll, cattle department	577.90
9- 8	8842	C. E. Cameron, Pres., pay roll, porters, administration bldg.	355.50
9- 8	8843	E. M. Wentworth, Supt., pay roll, police department	3,052.25
9- 8	8844	G. S. Gilbertson, Treas., pay roll, treasurer's department	1,838.75
9- 8	8845	E. J. Curtin, Supt., pay roll, speed department	620.15
9- 8	8846	C. W. Phillips, Supt., pay roll, ticket department	409.75
9- 8	8847	J. P. Mullen, Supt., pay roll, machinery department	459.95
9- 8	8848	T. C. Legoe, Supt., pay roll, fine arts department	489.55
9- 8	8849	C. F. Curtiss, Supt., pay roll, horse department	956.50
9- 8	8850	C. F. Curtiss, Supt., pay roll, stock pavilion, night show	166.00
9- 8	8851	J. F. Summers, Supt., pay roll, sheep and poultry departments	531.00
9- 8	8852	A. R. Corey, Acting Sec'y, pay roll, publicity department	110.25
9- 8	8853	A. R. Corey, Acting Sec'y., pay roll, secretary's department	650.75
9- 8	8854	F. E. Sheldon, Supt., pay roll, agricultural department	357.00
9- 8	8855	R. S. Johnston, Supt., pay roll, swine department	425.00
9- 8	8856	E. M. Reeves, Supt., pay roll, horticultural department	78.05
9- 8	8857	W. C. Brown, Supt., pay roll, concession department	104.00
9- 8	8858	W. C. Brown, Supt., pay roll, ticket takers, concession department	760.75
9- 8	8859	Wesley Greene, Supt., pay roll, floricultural department	88.00
9- 8	8860	A. R. Corey, Acting Sec'y, pay roll, forage department	599.00
9- 9	8861	Eli Hardin, special detective	70.00
9- 9	8862	Storm Lake Concert Band, full payment, band contract	400.00
9- 9	8863	Agar Packing Co., cinders	32.50
9- 9	8864	Club Dining Hall, state day banquet and meals for guests	119.55
9- 9	8865	T. C. Legoe, Supt., sundry supplies, fine arts department	3.85
9- 9	8866	A. P. McAnalty, services assistant supt. grounds	84.19
9- 9	8867	O. A. Olson, Supt., freight on horses and vehicles for use of admissions department, Des Moines to Forest City	20.40
9- 9	8868	O. A. Olson, Supt., freight on horses and vehicles, Forest City to Des Moines	20.40
9- 9	8869	Vere Loper, assistant at Rest Cottage	22.50
9-11	8870	Ferguson Printing Co., printing	148.75

9-11	8871	Geo. Redhead, use of sheep for dog trials	15.00
9-11	8872	Ted Woodward, horse and buggy for ticket department	22.50
9-11	8873	P. O. Weaver, corn, forage department	104.55
9-11	8874	Geo. A. Miller Printing Co., payment on printing tickets	150.00
9-11	8875	Parry Mfg. Co., refund on paid admissions	50.50
9-12	8876	W. B. Barney, superintendent dairy department, 15 days	60.00
9-12	8877	Jas. Horrabin, fourth estimate, culvert and grading	500.00
9-12	8878	Fred Hethershaw, expense model farm exhibit	106.50
9-12	8879	Fred Hethershaw, expense of collective farm exhibit	132.63
9-12	8880	Graham's Orchestra, contract at 1911 fair	311.00
9-15	8881	Mrs. Frank P. Carleton, matron, Rest Cottage	29.25
9-15	8882	W. W. Watson, repairing locks	4.35
9-15	8883	W. H. Knight, Sec'y. Am. Trotting Ass'n., suspensions	214.55
9-15	8884	Void	
9-15	8885	Globe Ticket Co., printing tickets for shows	247.17
9-15	8886	C. E. Cameron, special committee work	31.61
9-15	8887	E. J. Curtin, special committee work	31.50
9-16	8888	C. F. Curtis, telegrams, horse department	.25
9-16	8889	Wallace's Farmer, advertising	250.00
9-16	8890	Breeders' Gazette, advertising	196.00
9-16	8891	The Homestead Co., advertising	250.00
9-16	8892	Kimball's Dairy Farmer, advertising	99.40
9-16	8893	Farmer & Breeder Co., advertising	75.00
9-16	8894	The Golden Egg, advertising	15.00
9-16	8895	A. R. Corey, Acting Sec'y., pay roll, grounds department	2,153.86
9-16	8896	Register & Leader Co., advertising	407.13
9-16	8897	Des Moines Capital, advertising	308.28
9-16	8898	Des Moines Daily News, advertising	298.16
9-16	8899	W. W. West, advertising, Adair county	10.00
9-18	8900	W. W. Moore, billboard advertising	439.82
9-18	8901	Louis Kurtz, P. M., postage	20.00
9-18	8902	Fred Hethershaw, expense model farm exhibit	129.20
9-18	8903	Davenport Times, advertising for bids, machinery bldg.	11.10
9-18	8904	Donaldson Lithograph Co., aeroplane billboard paper	105.00
9-18	8905	Geo. E. Bliss, advertising, Adams county	10.00
9-18	8906	Geo. A. Hitchcock, advertising, Johnson county	10.00
9-18	8907	H. A. Russell, advertising, Appanoose county	15.00
9-18	8908	Geo. K. Scott, extra clerk in office, 12 days	36.00
9-20	8909	Porter P. Black, advertising, Muscatine county	15.00
9-21	8910	W. B. Barney, Sup't., pay roll, dairy department	210.00

9-21	8911	A. R. Corey, Acting Sec'y, county newspaper advertising account	2,500.00
9-21	8912	Des Moines Electric Co., light and power, 1911 fair	503.38
9-21	8913	Spirit of the West, advertising, speed program	62.50
9-21	8914	P. S. Kell, assistant in horse department	14.00
9-21	8915	Brooke Concession Co., page adv., speed program, 1911 fair	25.00
9-21	8916	Potts Bros., second payment, cement walk contract	500.00
9-21	8917	G. P. Grout, judging cattle	72.80
9-25	8918	A. R. Corey, Acting Sec'y., pay roll, grounds department	288.35
9-25	8919	A. Winterrowd, oats, forage department	383.05
9-28	8920	R. S. Johnston, auditing committee meeting	31.80
9-28	8921	C. E. Cameron, executive committee meeting	26.00
9-28	8922	Minn. State Agricultural Society, pro rata share expense of sheep dog exhibition	545.05
9-28	8923	American Trotting Association, dues 1911	100.00
9-28	8924	D. A. Long, advertising, Bremer county	15.00
9-29	8925	T. C. Legoe, auditing committee meeting	20.50
9-29	8926	Carl Shields, advertising, Union County	15.00
9-29	8927	D. G. Welty, advertising, Story county	25.00
9-29	8928	W. B. West, advertising, Humboldt county	15.00
9-29	8929	B. D. Stevers, advertising, Crawford county	15.00
9-29	8930	Geo. A. Poff, advertising, Keokuk county	15.00
9-29	8931	L. C. Hoffman, advertising, Decatur county	12.00
9-29	8932	T. J. Hudson, advertising, Madison county	15.00
9-29	8933	Joe McCoy, advertising, Warren county	10.00
9-29	8934	C. F. Momyer, advertising, Marion county	15.00
9-29	8935	W. S. Barnard, advertising, Clarke County	10.00
9-29	8936	L. F. Hall, advertising, Ringgold county	12.00
9-29	8937	F. G. Haworth, advertising, Tama county	15.00
9-29	8938	L. M. Hawn, advertising, Grundy county	20.00
9-29	8939	H. G. Kruse, advertising, Benton county	12.00
9-29	8940	H. S. Martin, advertising, Hardin county	15.00
9-29	8941	James Nowak, advertising, Poweshiek county	10.00
9-29	8942	Loren Perrin, advertising, Monroe county	12.00
9-29	8943	Carl E. Hoffman, advertising, Cass county	15.00
9-29	8944	H. B. Lizer, advertising, Black Hawk county	20.00
9-29	8945	H. C. Leach, advertising, Davis county	12.00
9-30	8946	Pray & Comerford, third estimate, plumbing contract	750.00
9-30	8947	Glenwood Coal Co., coal and blacksmith work	47.59
9-30	8948	Potts Bros., full payment, cement walk contract	220.24
9-30	8949	General Film Co., 70M tickets, side shows	10.50
9-30	8950	A. R. Corey, Acting Sec'y., special committee work	40.05
9-30	8951	C. A. Nash, salary for September	100.00
9-30	8952	Elsie Colton, salary for September	100.00
9-30	8953	J. H. Deemer, salary for September	83.33

9-30	8954	J. H. Deemer, plow repairs and live stock damages	7.25
9-30	8955	Diltz & Sanderson, 40 extra pages in official catalog	190.00
10- 2	8956	Iowa Telephone Co., toll bills, Ames station	1.95
10- 2	8957	Western Union Telegraph Co., messages, Ames station	5.71
10- 2	8958	Central Iron Works, 100 park seats	190.00
10- 2	8959	American Press Association, plate matter, country newspapers, 1911 contract	635.13
10- 2	8960	Downing Electric Co., first payment, electrical supplies, light system	1,000.00
10- 2	8961	Paul Davidson, car fare, errands from grounds to city	.80
10- 3	8962	Louis Kurtz, P. M., postage	10.00
10- 3	8963	Neale S. Knowles, expense, sup't. girls' cooking contest	12.76
10- 4	8964	Altoona Herald, printing	1.75
10- 4	8965	Adams Express Co., express bills, June, July and August	31.11
10- 4	8966	American Express Co., express bills, June, July and August	38.44
10- 4	8967	Bishard Bros., printing	82.79
10- 4	8968	Brinsmaid & Co., plates and vases, horticultural and floricultural departments	101.61
10- 4	8969	Baker, Trisler Co., office supplies	18.96
10- 4	8970	C. H. Trisler, two forms writerpress letters	5.65
10- 4	8971	Capital City Printing Plate Co., date lines and half tones	53.00
10- 4	8972	Mabel Campbell, expense, judge girls' cooking contest	2.80
10- 4	8973	Chase & West, burlap, school exhibits department, 1910	7.70
10- 4	8974	Chicago Horseman Newspaper Co., advertising, speed program	58.24
10- 4	8975	Davidson Bros. Co., 50 gal. ice cream, dairy department	37.50
10- 4	8976	Des Moines Capital, advertising for bids, plumbing contract	3.94
10- 4	8977	Des Moines Daily News, advertising for bids, plumbing contract	2.10
10- 4	8978	Des Moines Electric Co., 5 insulators, light system	.79
10- 4	8979	Des Moines Paper Box Mfg. Co., 1500 mailing tubes	15.00
10- 4	8980	Des Moines Rubber Stamp Works, rubber stamps	6.55
10- 4	8981	Des Moines Stationery Co., supplies, treasurer's department	5.00
10- 4	8982	East Side Carpenter Shop, boxes for judges' books	20.25
10- 4	8983	Geo. B. Grimes, two lanterns, forage department	2.50
10- 4	8984	Wesley Greene, one dozen vases, floricultural department	1.65
10- 4	8985	J. E. Graff, drug supplies, Rest Cottage	6.40
10- 4	8986	Hawkeye Press Clipping Bureau, press clippings, March to September	26.00

10- 4	8987	Harrison Printing Co., printing	9.25
10- 4	8988	Henry W. Gutshall, rental 10 acres of ground	70.00
10- 4	8989	Inland Printing Co., printing	6.25
10- 4	8990	Koch Bros. Printing Co., office supplies, grounds	1.75
10- 4	8991	Lewis-Wallace Printing Co., printing	48.70
10- 4	8992	Loetscher, Jaeger Mfg. Co., rental of show case	5.00
10- 4	8993	Miller Clean Towel Supply, towel service, 1911 fair	27.50
10- 4	8994	D. E. Moon Printing Co., printing	19.20
10- 4	8995	O. A. Olson, special committee work	37.15
10- 4	8996	Pratt-Mendsen Co., 9½M premium list envelopes	25.24
10- 4	8997	Postal Telegraph Co., messages, July, August and September	5.75
10- 4	8998	Remington Typewriter Co., typewriter adjustment	.50
10- 4	8999	Tablet & Ticket Co., gummed letters and figures	8.14
10- 4	9000	Talbot-Eno Co., 2M post cards	9.50
10- 4	9001	Underwood Typewriter Co., rental of machine	1.00
10- 4	9002	U. S. Express Co., express bills, June, July and August	38.87
10- 4	9003	J. H. Welch Printing Co., printing	40.00
10- 4	9004	Wells Fargo Co., express bills June, July and August	20.54
10- 4	9005	Ora Williams, superintendent publicity department	550.00
10- 4	9006	Western Union Telegraph Co., messages, June to September inclusive	59.03
10- 4	9007	Weldon, Williams & Lick, coupon tickets, amp. and stock pavilion	59.78
10- 4	9008	A. W. Wheelock, vases, floricultural department	9.56
10- 4	9009	McNamara-Kenworthy Co., office supplies	57.92
10- 4	9010	Woelfel Leather Co., car load tan bark	57.70
10- 4	9011	The Horse Review Co., advertising speed program	139.78
10- 4	9012	The Western Horseman Co., advertising speed program	94.34
10- 5	9013	Iowa State College of Agriculture and Mechanic Arts, one-half expense college exhibit	686.09
10- 5	9014	Alex McLennan, advertising Iowa county	20.00
10- 5	9015	Dr. H. M. Brown, judging cattle	104.85
10- 5	9016	W. F. Handschin, judging cattle	61.60
10- 7	9017	Hal Edwards, wagon repairs	2.10
10- 7	9018	Jas. Horrabin, dirt for barns	130.50
10- 7	9019	Jas. Horrabin, settlement on culvert contract	293.10
10- 7	9020	Jas. Horrabin, settlement on grading contrace	151.11
10- 7	9021	A. R. Corey, Acting Sec'y, balance country newspaper advertising account	507.11
10- 7	9022	Des Moines Bridge & Iron Works, band stand alterations and awning support	292.21
10- 7	9023	J. B. Terry Co., electric light outline, stock pavilion	147.50
10- 7	9024	Witmer & Kauffman, insurance	397.50
10- 7	9025	A. R. Corey, expense attending Missouri and Illinois state fairs	41.34

10- 7	9026	Massillon Bridge & Structural Co., third estimate steel contract, machinery building	2,500.00
10- 9	9027	Geo. A. Miller Printing Co., balance on printing tickets	160.80
10- 9	9028	Lozier, The Florist, plants and flowers for grounds	198.98
10- 9	9029	American Laundry, laundry bill, 1911 fair	2.65
10- 9	9030	American Iron Works, miscellaneous repairs	11.07
10- 9	9031	American Steel & Wire Co., fencing	155.47
10- 9	9032	Backman Sheet Metal Works, sheet metal work	220.73
10- 9	9033	Beckman Bros., piping and fixtures	79.23
10- 9	9034	Bright, H. V., turnstile and ticket chopper	110.00
10- 9	9035	Buck Bros. Co., paint, picture frames and supplies	187.50
10- 9	9036	Brown-Camp Hdw. Co., tools and implements	1.69
10- 9	9037	Ballard-Elliot Co., ticket sellers' bonds	44.00
10- 9	9038	A. R. Corning & Co., water barrels and supplies, grounds	11.60
10- 9	9039	Crane Co., light system supplies	1.62
10- 9	9040	John T. Christie, insurance	270.00
10- 9	9041	Des Moines Seed Co., chicken feed, poultry department	21.00
10- 9	9042	Des Moines Water Co., water bill, April to September inclusive	485.10
10- 9	9043	Des Moines Coal & Feed Co., coal for boiler, administration building	32.00
10- 9	9044	Des Moines Hosiery Mills, cinders, machinery building	2.70
10- 9	9045	Des Moines Tent & Awning Co., rental tents, cots, bedding, etc.	129.30
10- 9	9046	G. W. Deitz, lime and cement	41.00
10- 9	9047	F. A. Fish, work, electric light system	6.70
10- 9	9048	J. F. Fredergill, brick and sand	8.90
10- 9	9049	Garfield Clothing Co., duck suits, stock pavilion night show	8.50
10- 9	9050	Goodwin Brick & Tile Co., tile	27.45
10- 9	9051	Globe Machinery & Supply Co., pipe and fittings	123.45
10- 9	9052	Green Foundry & Furnace Works, fittings, cess pool	31.90
10-10	9053	Enos B. Hunt, Jr., page ad Des Moines souvenir book	25.00
10-10	9054	Robt. F. Hildebrand, photos, 1911 fair	134.00
10-10	9055	A. O. Harpel, photos of machinery building	15.00
10-10	9056	Homestead Printing Co., printing	37.00
10-10	9057	A. E. Holmes, engineering, earth work, machinery building	140.00
10-10	9058	Iowa Seed Co., grass seed	11.98
10-10	9059	Iowa Pipe & Tile Co., pipe and fittings	54.15
10-10	9060	International Harvester Co., implement repairs	2.65
10-10	9061	S. Joseph & Sons, guest buttons and superintendents' badges	135.50
10-10	9062	Byron Knapp, office boy, live stock department	21.00
10-10	9063	Chas. Koenigsberger & Son, harness and repairs	1.45
10-10	9064	Langan Bros. Co., office supplies, grounds	79.46

10-10	9065	Langan Bros. Co., ground supplies	105.82
10-10	9066	Geo. L. Longshore, sawdust and mill work	75.68
10-10	9067	McCutcheon & Verran Co., insurance	255.00
10-10	9068	McDonnell Boiler & Iron Works, boiler repairs	44.25
10-10	9069	Nichols Roofing Co., 1 bbl. coal tar	4.75
10-10	9070	O. A. Olson, amount paid for damage buggy	75.00
10-10	9071	Pitt-Matthews Carriage & Auto Co., implement repairs	3.90
10-10	9072	A. Palmer, Supt. transportation charges Marshall county school exhibit	10.60
10-10	9073	Pinkerton's Nat'l Detective Agency, detectives, 1911 fair	197.00
10-10	9074	Purcell Printing Co., printing 1911 premium list	1,063.00
10-10	9075	J. H. Queal & Co., lumber	3,303.82
10-10	9076	Merchants Transfer Co., freight and transfer charges, June, July and August	145.68
10-10	9077	Register & Leader Co., printing	357.75
10-10	9078	Register & Leader Co., engraving	235.58
10-10	9079	Register & Leader Co., advertising for bids, machinery building and plumbing	19.06
10-10	9080	Rowe Mfg. Co., gates for north fence	10.00
10-10	9081	Superior Fixture Co., electric lights and shades	8.40
10-10	9082	Stoner Wall Paper Co., miscellaneous signs and papering farm house	51.89
10-10	9083	Standard Oil Co., asphalt road oil	231.88
10-10	9084	Standard Oil Co., kerosene and gasoline for lighting	26.37
10-10	9085	Standard Glass & Paint Co., paint, glass, brushes, etc.	276.54
10-10	9086	Paul Storm, office boy, s. e. office, administration building	21.00
10-10	9087	Sherwin-Williams Co., paint	97.15
10-10	9088	G. W. Todd & Co., check protector	30.00
10-10	9089	Wallaces' Farmer, printing	689.20
10-10	9090	Western Newspaper Union, paper	6.40
10-10	9091	Whitehead, Hoag Co., premium ribbons, 1911 fair	572.93
10-10	9092	Willcox-Howell, Hopkins Co., insurance	530.00
10-10	9093	Ben Woolgar, horseshoeing	4.00
10-10	9094	J. S. Wilson Floral Co., plants and flowers for grounds	77.19
10-10	9095	Younker Bros., merchandise	7.60
10-10	9096	Iowa Telephone Co., exchange service and toll bills, grounds, May to September inclusive	28.90
10-10	9097	Iowa Telephone Co., toll bills, April to September inclusive	26.40
10-10	9098	S. Davidson & Bros., furnishings, chairs, etc.	118.60
10-10	9099	Fred Hethershaw, salary and expense, ass't supt. agricultural department	456.60
10-10	9100	Seick Tent & Awning Co., rental cots, bedding, tents, etc.	508.55
10-10	9101	Seick Tent & Awning Co., rental cots, bedding, tents, etc.	13.90

10-10	9102	Henninger & Adams, refund pen rent, sheep department	2.00
10-10	9103	U. G. Davidson, refund pen rent, swine department	1.00
10-10	9104	J. T. Perry, refund pen rent, swine department	2.00
10-10	9105	F. A. Strong, refund pen rent, swine department	3.00
10-10	9106	O. N. Phillips, refund pen rent, swine department	7.00
10-10	9107	A. O. Stanley, refund pen rent, swine department	2.00
10-10	9108	Henninger & Adams, refund pen rent, swine department	10.00
10-10	9109	Cahill Bros., refund stall rent, cattle department	4.00
10-10	9110	O. V. Battles, refund stall rent, cattle department	6.00
10-10	9111	Robt. Hazlett, refund stall rent, cattle department	4.00
10-10	9112	Cyrus Tow, refund stall rent, cattle department	6.00
10-10	9113	Chas. Howell, refund stall rent, cattle department	2.00
10-10	9114	J. F. Converse & Co., refund stall rent, cattle department	6.00
10-10	9115	W. E. Graham, refund stall rent, cattle department	4.00
10-10	9116	Carrie Powelson, stenographer, Iowa Pioneers' Assn	60.00
10-10	9117	F. Berkey & Son, refund stall rent, horse department	2.00
10-10	9118	Jos. C. Brunk, refund stall rent, horse department	20.00
10-10	9119	Cassidy & Thompson, refund stall rent, horse department	1.00
10-10	9120	G. A. Chaffee, refund stall rent, horse department	19.00
10-10	9121	A. L. Champlin, refund stall rent, horse department	2.00
10-10	9122	G. E. Cole, refund stall rent, horse department	4.00
10-10	9123	W. S. Corsa, refund stall rent, horse department	4.00
10-10	9124	Fred Crawford, refund stall rent, horse department	8.00
10-10	9125	Crawford & Griffin, refund stall rent, horse department	4.00
10-10	9126	C. B. Dannen & Sons, refund stall rent, horse department	2.00
10-10	9127	Geo. Eggert, refund stall rent, horse department	2.00
10-10	9128	Ethelwold Farms, refund stall rent, horse department	24.00
10-10	9129	O. W. Gale, refund stall rent, horse department	1.00
10-10	9130	W. V. Hixson, refund stall rent, horse department	6.00
10-10	9131	W. H. Inabnet, refund stall rent, horse department	4.00
10-10	9132	Mrs. Harry B. Kinnard, refund stall rent, horse department	2.00
10-10	9133	John Leitch, refund stall rent, horse department	8.00
10-10	9134	Mrs. John Leitch, refund stall rent, horse department	4.00
10-10	9135	H. W. Littleton, refund stall rent, horse department	10.00
10-10	9136	Harry D. Maxwell, refund stall rent, horse department	4.00
10-10	9137	Frank McDowell, refund stall rent, horse department	4.00
10-10	9138	Matt Miller, refund stall rent, horse department	7.00
10-10	9139	S. B. Miller, refund stall rent, horse department	4.00

10-10	9140	O. K. Jack & Horse Co., refund stall rent, horse department	4.00
10-10	9141	Carl A. Rosenfeld, refund stall rent, horse department	4.00
10-10	9142	J. A. Sage, refund stall rent, horse department	2.00
10-10	9143	P. F. Smith, refund stall rent, horse department	2.00
10-10	9144	Mrs. Adam Stirling, refund stall rent, horse department	8.00
10-10	9145	Philip Shore, refund stall rent, horse department	1 00
10-10	9146	C. C. Van Meter, refund stall rent, horse department	2.00
10-10	9147	Fred Williams, refund stall rent, horse department	2.00
10-10	9148	H. C. Young, refund stall rent, horse department	4.00
10-10	9149	Peter Bergen, refund stall rent, horse department	6.00
10-10	9150	E. L. Beck, miscellaneous expense, poultry department	2.62
10-10	9151	A. R. Corey, Acting Sec'y, pay roll grounds department	169.95
10-11	9152	A. R. Corey, Acting Sec'y, forage bills, various departments	51.15
10-11	9153	O'Dea Hardware Co., hardware supplies, 1911	814.99
10-11	9154	Ed Cree, oats and straw, forage department	285.22
10-11	9155	Shannon & Mott Co., mill feed, forage department	1,318.63
10-12	9156	J. Fred Olander, expense judge school exhibits	43.79
10-12	9157	A. V. Storm, Superintendent, pay roll school exhibits department	199.97
10-12	9158	Capital City Cartage Co., freight and delivery charges	1.31
10-12	9159	Pray & Comerford, balance plumbing contract and extra work	141.13
10-13	9160	Gus Strohmeier, advertising Sac County	15.00
10-13	9161	C. E. Cameron, expense attending Missouri and Oklahoma state fairs	54.25
10-14	9162	Capital City Hay Commission Co., wild hay, forage department	62.76
10-16	9163	O. W. Mullen, advertising Pocahontas county	10.00
10-16	9164	Downing Electric Co., balance on supplies and fittings, light system	386.19
10-16	9165	W. W. Watson, repairing locks	6 .00
10-16	9166	J. E. Lovejoy, fourth estimate gen'l contract machinery building	4,000.00
10-17	9167	L. S. Kline, refund pen rent, poultry department	1.00
10-18	9168	C. W. Phillips, auditing committee meeting	37.00
10-18	9169	Walter Nutt, ticket taker 2 days, 1910 fair	5.00
10-20	9170	H. R. Baker, advertising Wapello county	12.00
10-20	9171	W. C. Treloar, advertising Boone county	15.00
10-21	9172	H. G. McMillan & Sons, refund special premiums, Percheron futurity	60.00
10-21	9173	W. S. Corsa, refund special premiums, Percheron futurity	30.00
10-21	9174	J. C. Robinson, refund special premiums, Percheron futurity	100.00
10-21	9175	C. E. Cameron, executive committee meeting	26.00

10-21	9176	O. A. Olson, executive committee meeting.........	27.50
10-21	9177	Ferguson Printing Co., printing	10.00
10-23	9178	Bishard Bros., printing	9.75
10-23	9179	The Gray Livery, livery, Iowa Pioneers' Assn.....	1.50
10-23	9180	Smith-Premier Typewriter Co., machine rent......	1.00
10-23	9181	J. A. Duitman, printing	16.75
10-23	9182	B. F. Osborne, miscellaneous expense, Iowa Pioneers' Ass'n	55.55
10-23	9183	O. A. Olson, expense attending Missouri and Oklahoma state fairs	54.59
10-23	9184	A. J. Hunter, advertising Calhoun county..........	10.00
10-24	9185	W. W. Wallace, painting stock pavilion roof......	15.00
10-26	9186	A. R. Corey, Acting Sec'y, pay roll grounds department	156.92
10-30	9187	Des Moines Structural Steel Works, channels and angles, machinery building	89.88
10-30	9188	W. H. Reed, rent cash register, forage department	5.00
10-30	9189	C. L. Dahlberg, reporting hearing Hopley protest..	4.10
10-30	9190	Ogo Sales Co., closet disinfectant	10.00
10-31	9191	C. A. Nash, salary for October	100.00
10-31	9192	Elsie Colton, salary for October	100.00
10-31	9193	J. H. Deemer, salary for October	83.33
11- 1	9194	Grahl-Hermann Co., extra work, machinery building	314.32
11- 1	9195	Louis Kurtz, P. M., postage......................	10.00
11- 2	9196	R. S. Johnston, expense attending Illinois state fair	18.30
11- 2	9197	Iowa State College of Agriculture & Mechanic Arts, one-half expense college exhibit, second bill....	12.95
11- 2	9198	Iowa Telephone Co., toll bills, Ames station......	.50
11- 6	9199	R. W. Lamson, advertising Jefferson county.......	15.00
11- 6	9200	R. W. Lamson, additional advertising, Jefferson county	5.00
11- 6	9201	A. R. Corey, Acting Sec'y, pay roll grounds department	111.00
11-13	9202	Iowa Ass'n County & District Fairs, annual dues 1911	4.00
11-13	9203	American Ass'n Fairs & Expositions, annual dues 1911	25.00
11-13	9204	E. R. Harlan, five helpers Pioneers' day..........	12.50
11-15	9205	Nat'l Ass'n of Stallion Registry Boards, annual dues 1911	10.00
11-17	9206	J. E. Walsh, appraising machinery, etc.	50.00
11-17	9207	A. R. Corey, Acting Secretary, balance county advertising	20.00
11-17	9208	A. R. Corey, Acting Secretary, balance pay roll account 1910	2.90
11-23	9209	W. H. Brereton, Brick for cess pools	63.75
11-23	9210	O'Donnell Printing Co., supplies treasurer's department	9.50
11-23	9211	Iowa Pipe and Tile Co., pipe	6.00
11-23	9212	Pray and Comerford, plumbing repairs	2.35

11-23	9213	Grahl Herman Co., eaves spouting machinery building	148.15
11-23	9214	Ben Woolgar, horse-shoeing	13.50
11-23	9215	Burroughs Adding Machine Co., cleaning machine.	1.35
11-23	9216	Wells Fargo Co., express bills for October	.35
11-23	9217	S. Joseph & Sons Co., 2 watches for dairy premiums and engraving and expressing cups (premiums)	54.70
11-23	9218	J. E. Lovejoy, tile, brick and sand, cess pools	27.76
11-23	9219	Des Moines Water Co., water bills, October	9.52
11-23	9220	Iowa Press Clipping Bureau, press clippings	4.00
11-23	9221	U. S. Express Co., express bills, September	1.55
11-23	9222	American Express Co., express bills, September, October	1.15
11-23	9223	Des Moines Rubber Stamp Co., rubber stamps	.30
11-24	9224	Remington Typewriter Co., machine repairs	6.00
11-25	9225	Iowa Telephone Co., toll bills—Ames station	.25
11-28	9226	A. R. Corey, Acting Secretary, pay roll grounds department	80.25
11-29	9227	J. L. Moyer, storing hog crates 1911 fair	10.00
11-29	9228	Jas. H. Deemer, salary for November	83.37
11-29	9229	C. A. Nash, salary for November	100.00
11-29	9230	Elsie Colton, salary for November	100.00
11-29	9231	O. O. Smith, balance architect fees	235.06
11-29	9232	Des Moines Electric Co., payment on electrical supplies	6,600.00
11-29	9233	Massillon Bridge & Structural Co., 4th estimate steel contract on machinery building	1,200.00
11-29	9234	J. E. Lovejoy, 5th estimate, general contract, machinery building	1,000.00
11-29	9235	J. E. Lovejoy, second estimate closet contract amphitheater	400.00
11-29	9236	C. E. Cameron, per diem and mileage executive committee meeting	26.00
11-29	9237	O. A. Olson, per diem and mileage, executive committee meeting	27.50
11-29	9238	G. S. Gilbertson, treasurer's salary 1911	100.00
		Total	$195,807.49

Dr. Geo. M. Chappel, Director of the Iowa Weather and Crop Service, read his final report for the state showing total yield and value of soil products, as follows:

IOWA CROPS—FINAL REPORT, 1911.

FINAL REPORT FOR THE STATE—TOTAL YIELD OF SOIL PRODUCTS—VALUE AT FARM PRICE, DECEMBER 1, 1911.

Following is a summary of reports from crop correspondents of the Iowa Weather and Crop Service, and threshermen, showing the average yield per acre and total yields of staple soil products, and the average price at the farms, or nearest stations, December 1, 1911. The value gained by feeding farm crops for production of live stock, poultry and dairy products, is not taken into consideration in this report. The conditions were never better for seeding, planting and cultivating than obtained during the early part of the season. Corn was laid by much earlier than usual, and the stand was practically perfect. The outlook was excellent on the 1st of July; but the excessively high temperatures during the first five days of July, and the drought that prevailed over the larger part of the state during June and July, and in the western and southern counties during the entire summer, cut down the prospective yields materially, and yet with these adverse conditions the total output of the state, and especially the average yield of corn, is much larger than in the dry years of 1894 and 1901.

Corn.—The estimated acreage of the corn crop is 8,534,500 acres, or 163,000 acres more than were planted last year, as shown by the report of the township assessors. The average yield per acre for the state this year was 32.9 bushels, making a total yield of 281,366,600 bushels. The average farm price on December 1st was 54 cents per bushel, making the aggregate value $151,937,964. Last year the estimated yield was 39.7 bushels per acre; aggregate yield, 354,506,500 bushels; average farm price was 36 cents; total value $127,622,340. While the rains in August and September increased the yield, the rains in October caused much of the corn in shock to mold, and the crop, as a whole, is not in as good condition as it was on December 1, 1910. There was much more than the usual amount of cloudy, damp weather during September, October and November, which prevented the crop from drying out and corn picked for seed and hung in cribs or sheds was badly damaged by the severe freezing weather on November 11th-12th.

Oats.—The area harvested was 4,660,500 acres; average yield, 25.7 bushels per acre; total yield, 120,208,300; aggregate value at 41 cents per bushel, $59,285,403.

Spring Wheat.—Area harvested, 358,510 acres; average yield, 13.1 bushels per acre; total yield, 4,674,500; price per bushel, 86 cents; total value, $4,020,070.

Winter Wheat.—Area harvested, 200,762 acres; average yield per acre, 19.7 bushels; total yield, 3,959,000; average price, 93 cents per bushel; total value, $3,681,870.

Barley.—Average per acre, 22.9 bushels; total yield, 7,197,090 bushels; farm price, 90 cents per bushel; total value, $6,477,381.

Rye.—Average yield, 16.8 bushels per acre; total crop, 486,130 bushels; farm price, 79 cents per bushel; total value, $384,043.

Flax Seed.—Average per acre, 8.5 bushels; total product, 173,710 bushels; total value at $2.00 per bushel, $347,420.

Potatoes.—Average yield per acre, 71 bushels; total yield, 9,386,390 bushels; average price, 71 cents; total value, $8,353,887.

Hay (Tame).—Average yield, 0.8 ton; total yield, 3,246,200 tons; average price, $13.44; total value, $43,628,928.

Hay (Wild).—Average yield, 0.9 ton; total yield, 683,385 tons; average price, $10.28; total value, $7,024,188.

TABULATED CROP SUMMARY.

Corn	281,366,600 bu.	$151,937,964
Oats	120,208,300 bu.	59,285,403
Spring wheat	4,674,500 bu.	4,020,070
Winter wheat	3,959,000 bu.	3,681,870
Barley	7,197,090 bu.	6,477,381
Rye	486,130 bu.	384,043
Flax	173,710 bu.	347,420
Potatoes	9,386,390 bu.	8,353,887
Hay (tame)	3,246,200 tons.	43,628,928
Hay (wild)	683,385 tons.	7,024,188
Pasturage and grazing	estimated	80,000,000
Ensilage	"	3,250,000
Timothy and clover seed	"	800,000
Alfalfa and millet	"	600,000
Sweet corn	"	950,000
Pop corn	"	250,000
Fruit crop	"	9,000,000
Garden truck	"	1,000,000
Miscellaneous crops	"	8,000,000
Total value		$388,991,154

The estimated value of soil products for 1910 was............ 362,470,791

GEORGE M. CHAPPEL,
Director.

Following Dr. Chappel's report, Professor C. F. Curtiss of Ames, Iowa, gave a short address dealing with agricultural problems.

On motion the convention adjourned until 1:30 o'clock p. m.

AFTERNOON SESSION.

Convention was called to order at 1:30 o'clock by President Cameron.

The President introduced Hon. A. L. Sponsler, Secretary of the Kansas State Fair at Hutchinson, Kansas, who addressed the convention as follows:

SOME PHASES OF FAIR MANAGEMENT.

A. L. SPONSLER, HUTCHINSON, KANSAS.

"I didn't come to Des Moines to teach Iowa how to run a fair. I first want to congratulate you upon your reputation of having an all around great agricultural state fair second to none in America—a show of the resources of your magnificent state.

To one acquainted with fairs there are many angles if divertisement and I shall only attempt to notice some phases of this great subject of fair management.

Agricultural fairs hold a unique place in the world. There is nothing like them, neither is there anything that will take their place. They have been in vogue for a century or more in one form or another. They grew out of the conception of men that comparison is a necessary element in forming judgment. By comparing things with like things, a better judgment could be obtained than any other method. It was thus that all our improved breeds of cattle and live stock generally was improved. So far as appearances is concerned, the same may be said of all agricultural products that are produced from the soil. All departments of the fair grew in these respects and grew up in this way, except the speed ring. In that appearances could not, and did not count, because a different purpose other than good looks and good appearances was the objective point. A very good looking horse might be very poor as a road horse. This is one of the mooted questions relating to fairs generally and one with which it is most difficult to deal as a general proposition. All other departments seem to be readily and easily understood by the general public. Not so with the races. This of course is because horse racing has sometimes been abused and the race horses have been used for purely gambling and untenable purposes. This department of fairs perhaps needs our attention more just now than any other. Considerable discussion is going on in the horse press of America relative to better racing and making of it a more attractive feature. Too many people of course think the racing means nothing more than a race for the money at the wire. They do not stop to think of the time, patience and expense the breeders have been to in order to produce the very horses before their eyes. Perhaps the entries of no one department of the fair has cost so much. It took a long time to produce a horse that could make an attractive race as we have them nowaday. America has produced what is termed the harness horse. It was done not only by intelligent breeding, but also by trials at speed. It was for the development of this American horse that race courses were built. In speed trials the horse of the best bone sinew, tendon, muscle, lung power, energy and spirit won. In breeding, these winners were mated. The others were discarded. The first three minute horse filled the hearts of the people of his day with joy and admiration as much as does the two minute horse of today. But it has taken the intelligent mating of the best for many years to produce the horse we have today and it was the men who did this mating that produced these horses, that founded the turf. They popularized the turf, because it had a purpose. Today we better understand that purpose than did many of the people along the earlier times or do many people today who will not stop to think of the real purpose of the racing at the fairs. It was the only possible means by which this horse could have been produced. It is the only possible way which premiums could be offered for the best. It has resulted in a better horse and it is the horse that everybody loves. He is the horse useful and beautiful—the all purpose horse for road and plow—for country and city—for pleasure and work and pride and leisure. But he carries the blood of centuries and is the highest developed in America. Apropos to this we never tire of a story we once heard told by Ex-Governor Hoard of Wisconsin.

During the civil war the confederate forces surprised and routed the union troops at Winchester and had them on the run. Companies, battalions, batteries, regiments and all were on a disorderly retreat. A great victory for the confederates was apparently inevitable. The Ex-Governor himself was then a private soldier, trudging with thousands of others along the dusty high-way in the mad rush to get somewhere, anywhere, as a place of safety and avoid captivity or death. While in this condition General Phil Sheridan concluding his famous ride of twenty miles, turned this disorder and defeat into victory. Governor Hoard says: "I shall never forget that pandemonium, neither shall I ever forget the change that overcome our forces when General Sheridan came riding by us with hat in air and giving the command to form face about for re-engagement. I shall never forget the horse he rode as he came in from his famous ride of twenty miles all covered with dust and foam, because it was due to the efforts of that horse that the commanding general could be present and that horse had been bred for 2,000 years to perform that task."

It is to perpetuate this great American horse that the turf still exists and is still popular. There have been objectors to the racing because it is claimed it is cruelty to animals. This is because appearances are deceptive. They see the horses turn and come to the wire for the word, each in the very pink of condition and every driver alert for the least advantage. The horses themselves seem almost as eager as the drivers and the spectators. People hear the starter give the word "go" and watch them round the track with the very greatest interest and nervous tention. They see these horses finishing their mile, exerting every fiber of their body, calling on their greatest energy as well as an indomitable spirit and they come on with ears set, eyes glaring, nostrils distended in sweat and foam, each urged onward by expert reinsmen. There is a very delirium of excitement on the part of the spectators and they lustily cheer the winner. A fault finder says this is cruelty to animals as he sees them led into the paddock, super-heated and panting. He does not stop to think that this horse has been bred for endurance as well as time and he also forgets to observe that many of the fastest horses have lived to the ripe old age of from twenty-five to thirty-five. Time forbids the naming of the long list of the queens and kings of the turf that have trotted and paced the fastest miles over the American turf that lived to these ripe old ages.

There is proof abundant that the turf has its ligitimate place as a department in our agricultural fairs and it is for us to determine how best to perform the task in these respects, set for us today. There are many suggestions being made. My suggestion is that we set about to raise the standard of the turf in the estimation of the horsemen as well as the public, thereby hoping to make it more attractive and more profitable to the breeders and to the Fair Associations. The day was when breeders raised their horses and tried them out in friendly contest with little or nothing at stake, except to ascertain which was the best one. They were proud of their product. With the almost finished product we should be able to do much more with the horse than was then accomplished. Most of the great fairs have instituted horse shows. These shows are for the encouragement of saddlers, drivers and various others for fashionable as well as useful purposes. For the encouragement of breeders more attention should be paid to the various breeds and classifications and more classes in the horse shows should be devoted to their interests. The breeder who can train a stable of horses and carry with him others for premium and show purposes, would occupy an ideal position in the horse world. It would elevate the business and tend to solve the problem of starters in races. The public will never weary or grow tired of the speed horse whether shown on the race track, in the show ring or when led or driven out for a class premium.

There seems to be an almost impossible barrier between the horsemen who fancy the standard-bred and those who fancy the thoroughbred. The former seems at times to forget how much he owes to the blood of the thoroughbred and just because he personally fancies the line of breeding which has lead to the high class standard-bred of today, rather than the branch that continued the development of the thoroughbred, he should not hate the latter. The thoroughbred also has his place and that place should be accorded with a hearty good will. Probably one of the greatest reasons why the thoroughbred has fallen into disrespect by many is because he has not been handled as has the standard-bred. He has not had the protecting care of racing associations as has the standard-bred. No standard-bred racing can exist without being conducted under the rules of the American Trotting Association or some similar organization. The thoroughbred has been misused and abused, but that does not detract from the nobility of the horse himself. It is an insinuation against those who have prostituted him. To serve the baser proposes of the baser element. There are as high class breeders of thoroughbreds as there are of standard-breds (though of course not so many of them,) principally because the thoroughbred cannot be put to so many useful purposes as can the standard-bred. No breed of horses in the world can boast of the princely sums that have been paid recently for thoroughbreds. The thoroughbred is not passing. His popularity has waned, but it will be regained. He has a place in the making of the great American horse and will retain his place on the American turf. As a proof I will cite to an article in the November Breeders Gazette:

"As a contrast to the sales of thoroughbreds in the United States within the last two years are some sales in other parts of the world. At a sale in Sidney, Australia, in Easter week 1910, 385 thoroughbred yearlings were sold for an average of over $972 each. At Doncaster yearling sales in September 1911, 298 lots made an average of $1,905. In Argentine recently 188 yearlings sold at an average of nearly $6,500; twelve Cyllene colts made an average of $15,000 and eight fillies made an average of $7,500. Thirteen Polar Star colts made an average of $9,500 and ten fillies averaged $6,000. Seven colts and seven fillies by Diamond Jubilee fetched respectively an average of $8,000 and $4,000. Fourteen Jardy colts reached an average of $10,000, and six fillies an average of $5,000. The Vale d'Or colts averaged $4,500, the ten fillies $5,000. Eight other sires of less fame were represented. There are five notable horses in Argentina studs: Diamond Jubilee by St. Simon, for which $150,000 was paid; Cyllene by Bona Nota, costing a similar amount; Jardy and Vale d'Or by Flying Fox, sold for $150,000 and $140,000 respectively, and Polar Star by Pioneer for $90,000.

There is nothing in the "Old Glory Sale" or any other sale of standard bred or any other breed of horses that has sold anywhere in the world for such prices. The general public likes a running race and it is up to the Fair Associations of the United States to popularize them. In no way can this be done better than by the general recognition of some certain governing organization similar to that of the American Trotting Association government and control the thoroughbred racing. It is simply a question whether or not the Fair Associations themselves will compel all thoroughbred racing to be under certain rules and government. Will they do it? We fully realize that we are laying ourselves liable to be burnt at the stake by one or all of the great horse journals of our country, but nevertheless a day will come when they will recognize the wisdom of this suggestion in this or some other form.

I am reminded right here of another phase of the agricultural Fair problem, and that is that we have no literature—no compilation containing the knowledge and experience of successful fair managers. In the United States there are about 900 fairs held. They have an attendance of about 30,000,000 people. No other feature affecting the ninety-millions of people of America has had so little attention paid to it by government. It would seem that where such a large percentage of our entire population is interested in one particular sort of thing that there would be more general demand for a concentrated knowledge expressed in books as the result of investigations, experiences and observations—but we have no literature. We are still plodding along using what legendary lore we can absorb, and much of that escapes us because there is no storehouse for it. Why this is as it is, is an interesting question, arising in the mind of ambitious fair managers who seek for aid, assistance or comfort. Of course agricultural fairs are never greater than their management. Just as no thing or no enterprise, no article or no book is greater than the conception of the maker or producer. We hold these meetings here and there throughout the United States, first locally, then more generally and we have been holding them for years and years and still if a man were to go out into the market to buy something that would aid in a statistical or any other way, he would find the market bare and void. We evidently are a class of men who strive for the best interests of the fair we represent and then recede. We appear in the lime light a week and then retire to the preparation room. Our course reminds me of the story of Bret Hart's wherein he wrote of once observing in the mountains of northern Oregon the deserted cabin of an old miner, built in a hollow over a little stream. It was out in the wilds of a lovely country, lonely, forlorn and forgotten. As he sat musing as to what that old cabin had probably meant to some hopeful soul, a blue jay came gliding along and lit on the roof of the old cabin. The blue-jay held an acorn in his mouth. He peered about and his bright eye observed a knot hole in the roof of the cabin and looking about first this way and then that a moment as if in meditation, he finally deposited the acorn in the knot hole. It was to be his winter storehouse. He flew away—presently he came back in company with a few others, each bearing an acorn and each in turn deposited the acorn in the knot hole, and were gone. They returned with still more birds with still more acorns. They kept that up for a long time until it seemed that all the blue-jays in northern Oregon were engaged in carrying acorns and depositing them in that knot hole. A wise old jay bird as if wondering when there task would be completed and the cabin filled with winter food cast about, only to discover that there was no floor in the cabin and the little stream was carrying those acorns away to oblivion as fast as they were deposited.

So it seems to me is the case of the fair secretaries and managers of the United States. Annually they learn various lessons, have various experiences—they are usually communicative and join willingly with any bunch of their kind for the good of the order, but so far, they have been depositing acorns through the knot hole only to be carried to oblivion. It would be invaluable to fair managers if some method were devised whereby the information relative to fairs could be gotten in some concrete form and the business thus reduced to more of a science. Science is classified knowledge. The market for a book containing classified knowledge relating to fairs could not be sold in sufficient numbers probably to pay the author. Therefore, the probability is, that it will have to remain in this scattered shape until the agricultural department at Washington takes it up, collates and publishes its history, experience, observations, faults, failures, successors and all and then issues an annual thereafter.

Although so many people are interested in their agricultural fairs it requires a large amount of tactful advertising to bring them hitherward. The advertisement must be so written as to attract their attention and convince them that the fair is worth while. A fair is a business proposition pure and simple. It cannot be regarded in any other light. A prominent manager of a big advertising firm recently remarked that "to do business without advertising was like winking at a girl in the dark. You know what you are doing but she doesn't." You cannot conduct a fair without judicious advertising any more than any other business. But there is no concentrated literature on this subject. This like every other feature of a fair is left to the management. The ability of many of the secretaries of fairs is judged largely from the character of his advertising.

A secretary may be a success in every way but if a failure as an advertiser he is consigned to the junk pile. There is no settled rule as to how much one should spend in advertising—every association must advertise according to its prospects. Every other department must be conducted along similar lines. In the contemplation of the total expense in the way of premiums, advertising and other items of expense, there is a general rule which may be followed successfully. That is, that in no case must the possible expenditures exceed the probable receipts from attendance. A fair cannot be bigger than the community in which it is located. Of course there are some exceptions to this statement because of environment. The Kansas State Fair at Hutchinson draws its patronage from a large area. If the State Fair of Missouri or the State Fair of Ohio for instance drew as large a percentage of the total population living within an area the size that the Hutchinson fair draws from they would have an attendance of more than a million. So, environment cuts considerable figure. In advertising this might as well be taken into consideration and in many instances considerable expense in the way of advertising may be saved.

Every management must figure on where the people are to come from and then advertise in a way to get them. The great state—supported, state-controlled, state fair owes it as a duty, perhaps to reach out co-extensive with the state, but all other fair organizations are guilty of waste if they extend their advertising beyond the reach of their probabilities.

In making up the premium list of a county or district fair the probable attendance of course must be considered, likewise all other expense. Whenever the expense becomes greater than the probable attendance will justify, then the fair will certainly fail in making profits, if indeed, it can make expenses. Notwithstanding a fair is a weather bet and a fight against thieves, the managers are usually held responsible and in their figuring on possible expense, they must always take into consideration the fact that weather and thieves are liable to encroach upon their probable earnings. I have been asked what proportion should the purse offering for races be to the total premium list. My reply is that all things being equal the total might be commensurate with the probable attendance and the amount devoted to racing must be according to the interest the particular community takes in turf events. As a general rule fairs do not flourish without racing. The racing is an important feature and in normal communities as much money can be devoted by county and district fairs to the turf as there is to the premiums of the other departments. Especially so if interesting and high class free attractions are interspersed between heats. This class of entertainment will fill the grandstand and please the people. It is almost impossible to interest a large audience with exhibits only. There must be interesting and exciting entertainment. Old people are just grown children and when it comes to a big all round old-fashioned agricultural fair it takes everything to make it complete,—barring of course intoxicating liquors and immorality. As to the latter a safe rule to establish is, that nothing shall occur on the grounds beneath the average morality of the community in which the fair is held. Then the goody-goody man has no kick which he can justify neither the base representative of the under world. A fair built thus along educational lines, which is also inspirational and recreational, well balanced as to expenditures as based upon probable receipts, will win the public favor and make profits to build the fair bigger and better. Or if it be a state supported fair additional appropriations will be more easily secured.

Live Stock and Agricultural Departments, Women's Departments, Farm Implements Departments, Concessions, Free Attractions and other features deserve special discussion, but each requires more time than allotted.

Iowa is generally regarded as an example for ambitious fair managers to follow. You have the men, the means and the resources, and you deserve the highest commendation for your leadership in this important factor in the agricultural development of our common country.

If I have said something in these remarks that will be helpful to any one engaged in fair management of either big or little fairs I shall feel repaid.

The President announced that Hon. E. J. Watson, Commissioner of Agriculture and Immigration for the State of South Carolina, who was expected to address the convention, was unable to be present.

The Committee on Resolutions offered the following report, which was unanimously adopted:

REPORT OF COMMITTEE ON RESOLUTIONS.

Resolved, That we most heartily thank the officers and directors of this society for the prudent, careful and intelligent manner in which they have conducted the business affairs of Iowa's great fair and exposition. Their devotion and untiring efforts has given Iowa the greatest fair and exposition in the world, and thus they have assisted very largely in giving this state the prestige of the tremendous advertising its farm values, products and manufacturing interests justly deserve.

Resolved, That, believing the Iowa Association of County and District Fair Managers to be of great value and assistance in developing the agricultural interests of various counties at the county fairs, we would recommend that all county and district fairs in the state affiliate with and send delegates to the annual meetings of that association.

W. M. Clark,
T. W. Purcell,
H. C. Leach,
Committee.

The Committee on Credentials made the following report:

REPORT OF COMMITTEE ON CREDENTIALS.

Mr. President.—We, the undersigned, your Committee on Credentials, beg to report that the eighty-three (83) following named persons are duly accredited delegates to this State Agricultural Convention.

C. W. Hoffman,
Chas. W. Bradley,
E. J. Curtin,
Committee.

DELEGATES ENTITLED TO VOTE IN THE STATE AGRICULTURAL CONVENTION, DECEMBER 14, 1911.

FARMERS INSTITUTES.

Appanoose County	D. D. Whitton, Moulton
Bremer County	J. W. Bennett, Janesville
Buena Vista County	C. A. Fulton, Storm Lake
Calhoun County	T. W. McCreary, Rockwell City
Cerro Gordo County	D. McArthur, Mason City
Dallas County	H. L. Neff, Dallas Center
Decatur County	C. M. Akes, Leon
Floyd County	J. R. Waller, Charles City
Mills County	Chas. H. Summers, Malvern
Monona County	W. M. McBeath, Whiting
O'Brien County	Albert Schultz, Paullina
Page County	J. E. Sawhill, Clarinda
Pocahontas County	W. W. Linnan, Pocahontas
Ringgold County	Grant Stahl, Diagonal
Union County	Wm. Brown, Afton
Warren County	Silas Igo, Indianola
Wright County	J. C. Middleton, Eagle Grove

COUNTY AND DISTRICT FAIR ASSOCIATIONS.

Buchanan County Agricultural Society	A. G. Rigby, Independence
Buena Vista County Agricultural Society	A. L. Denio, Alta
Calhoun County Fair Association	C. G. Kaskey, Manson
Rockwell City Fair Association	L. E. Eslick, Rockwell City
Cass County Agricultural Society	E. F. Berg, Atlantic
North Iowa Fair Association	Arthur Pickford, Nora Springs
Chickasaw County Agricultural Society	G. M. Bigelow, New Hampton
Big Four Fair Association	C. L. Putney, Nashua
Davis County Agricultural Society	H. C. Leach, Bloomfield
Franklin County Agricultural Society	T. W. Purcell, Hampton
Hancock County Agricultural Society	F. B. Rogers, Britt
Hardin County Agricultural Society	J. H. Hadley, Eldora
Henry County Agricultural Society	C. H. Tribby, Mt. Pleasant
Victor District Agricultural Society	J. P. Bowling, Victor
Jasper County Agricultural Society	F. E. Meredith, Newton
Johnson County Agricultural Society	Geo. A. Hitchcock, Iowa City
Kossuth County Agricultural Society	F. A. Corey, Wesley
Columbus Junction District Fair Association	O. M. Calvin, Columbus Junction
Lyon County Fair and Agricultural Association	Chas. W. Bradley, Rock Rapids
Madison County Agricultural Society	T. J. Hudson, Winterset
Marshall County Fair Association	W. M. Clark, Marshalltown
Mills County Agricultural Society	W. L. Summers, Malvern
Monona County Fair Association	R. W. Cassidy, Whiting

Union District Agricultural Society	J. C. Nichols, West Liberty
O'Brien County Agricultural Society	J. B. Murphy, Sutherland
Big Four District Fair Association	C. C. Patty, Fonda
Poweshiek County Central Agricultural Society	James Nowak, Malcom
Sac County Agricultural Society	Gus Strohmeier, Sac City
Shelby County Agricultural Society	L. H. Pickard, Harlan
Sioux County Agricultural Society	J. E. Morris, Ireton
Warren County Fair Association	Joe McCoy, Indianola
Forest City Park and Fair Association	R. E. Hanson, Forest City
Interstate Live Stock and Fair Association	Joe Morton, Sioux City
Wright County Agricultural Society	W. C. Brown, Clarion

COUNTIES WHERE NO FAIRS WERE HELD.

Appanoose County	Joe Price, Unionville
Clarke County	John Ledgerwood, Weldon
Dallas County	O. L. Gray, Dallas Center
Decatur County	C. W. Hoffman, Leon
Des Moines County	I. R. Hale
Emmet County	N. J. Lee, Estherville
Floyd County	James A. King, Charles City
Guthrie County	F. M. Hopkins, Guthrie Center
Ida County	B. M. Hester, Ida Grove
Lucas County	D. A. McMains, Derby
Montgomery County	H. E. Deemer, Red Oak
Polk County	J. A. Backman, Des Moines
Taylor County	Clyde Dunning, Bedford
Union County	W. W. Morrow, Afton
Washington County	D. J. Palmer, Washington
Webster County	D. S. Coughlon, Ft. Dodge
Wayne County	Hiram K. Evans, Corydon

STATE BOARD OF AGRICULTURE.

OFFICERS.

President	C. E. Cameron, Alta
Vice President	O. A. Olson, Forest City
Secretary	A. R. Corey, Des Moines
Treasurer	G. S. Gilbertson, Des Moines

EX-OFFICIO MEMBERS.

President State Agricultural College	E. W. Stanton, Ames
State Veterinarian	Dr. J. I. Gibson, Des Moines
State Food and Dairy Commissioner	W. B. Barney, Des Moines

DISTRICT MEMBERS.

First District	R. S. Johnston, Columbus Junction
Second District	C. W. Phillips, Maquoketa
Third District	E. M. Reeves, Waverly

Fourth District	E. J. Curtin, Decorah
Fifth District	E. M. Wentworth, State Center
Sixth District	T. C. Legoe, What Cheer
Seventh District	C. F. Curtiss, Ames
Eighth District	F. E. Sheldon, Mt. Ayr
Ninth District	J. F. Summers, Malvern
Tenth District	J. P. Mullen, Fonda
Eleventh District	H. L. Pike, Whiting

On motion the report of the committee was adopted.

The President announced the next order of business would be the election of officers and members of the State Board of Agriculture, President and Vice President for ensuing year. Members from the odd numbered Congressional Districts for the ensuing two years, and a member from Tenth District for the unexpired term.

Vice President Olson took the chair.

Mr. Joe Morton of Woodbury County placed in nomination for President of the State Board of Agriculture, Mr. C. E. Cameron of Buena Vista County to succeed himself, and moved if there were no other nominations that the secretary be instructed to cast the entire vote of the convention for Mr. Cameron. The motion was duly seconded by Mr. C. W. Hoffman of Decatur County and adopted by the convention. The eighty-three (83) votes were so cast by the secretary and Vice President Olson declared Mr. C. E. Cameron duly elected president of the State Board of Agriculture for the ensuing year.

For vice president, Mr. F. B. Rogers of Hancock County nominated Mr. O. A. Olson of Winnebago County to succeed himself, which nomination was duly seconded. On motion the rules were suspended and the secretary instructed to cast the vote of the convention for Mr. Olson. The eighty-three (83) votes were so cast by the Secretary and Mr. Olson was declared duly elected vice president of the State Board of Agriculture for the ensuing year.

For member of the board from the First District Mr. D. J. Palmer of Washington County nominated Mr. R. S. Johnston of Louisa County to succeed himself, which nomination was duly seconded. There being no other nominations, on motion the rules were suspended and the secretary instructed to cast the entire vote of the convention for Mr. Johnston. The eighty-three (83) votes were so cast by the secretary and Mr. Johnston was declared duly elected member of the board from the First District for the ensuing two years.

For member of the board from the Third District Mr. Legoe of Keokuk County nominated Mr. Elmer M. Reeves of Bremer County to succeed himself. There being no other nominations, the secretary was instructed to cast the entire vote of the convention for Mr. Reeves. The secretary so cast the eighty-three (83) votes and Mr. Reeves was declared duly elected member of the board from the Third District for the ensuing two years.

Mr. W. M. Clark of Marshall County nominated Mr. E. M. Wentworth of Marshall County to succeed himself for member of the board from the Fifth District. There being no other nominations the rules were suspended and the secretary instructed to cast the entire vote of the convention for Mr. Wentworth. The eighty-three (83) votes were so cast by the secretary and Mr. Wentworth was declared duly elected member of the board from the Fifth District for the ensuing two years.

Mr. O. L. Gray of Dallas County nominated Mr. C. F. Curtiss of Story County to succeed himself as member of the board from the Seventh District. There being no other nominations the rules were suspended and the secretary instructed to cast the entire vote of the convention for Mr. Curtiss. The secretary so cast the eighty-three (83) votes and Mr. Curtiss was declared duly elected member of the board from the Seventh District for the ensuing two years.

For member of the board from the Ninth District, Mr. W. L. Summers of Mills County nominated Mr. J. F. Summers of Mills County to succeed himself. There being no other nominations, on motion the rules were suspended and the secretary instructed to cast the entire vote of the convention for Mr. Summers. The secretary so cast the eighty-three (83) votes of the convention and Mr. Summers was declared duly elected member of the board from the Ninth District for the ensuing two years.

Mr. L. E. Eslick of Calhoun County nominated Mr. John P. Mullen as member of the board from the Tenth District for the unexpired term. There being no other nominations, the rules were suspended and the secretary instructed to cast the entire vote of the convention for Mr. Mullen. The secretary so cast the eighty-three (83) votes and Mr. Mullen was declared duly elected member of the board from the Tenth District for the unexpired term.

Mr. Charles W. Bradley of Lyon County nominated Mr. H. L. Pike of Monona County to succeed himself as member of the board from the Eleventh District. There being no other nominations, the rules were suspended and the secretary instructed to cast the entire vote of the convention for Mr. Pike. The eighty-three (83) votes of the convention were so cast by the secretary and Mr. Pike was declared duly elected member of the board from the Eleventh District for the ensuing two years.

On motion the convention adjourned.

PART VII

PROCEEDINGS

OF THE

Annual Meeting of the Swine Breeders' Association

1911

BY M. P. HANCHER, SECRETARY.

OFFICERS.

PRESIDENT	J. H. Watson, Madrid
FIRST VICE PRESIDENT	B. F. Davidson, Menlo
SECOND VICE PRESIDENT	B. R. Vale, Bonaparte
SECRETARY	M. P. Hancher, Rolfe

IOWA SWINE BREEDERS' ASSOCIATION.

The Iowa Swine Breeders' Association met at Des Moines on Tuesday, June 20th. The attendance was good, taking into consideration the urgent work which the crops are demanding at the present time. The program was opened by an address by President Watson, who congratulated breeders upon being permitted to meet in this thirtieth annual session of the Swine Breeders' Association. The association was started September 5, 1882, on the old state fair grounds in Brown's Woods on the west side. The main object in organizing the association at that time was to secure better accommodations for the exhibitor of swine at the state fair. He pointed out that as a reward for the untiring effors of the association, coupled with a liberal appropriation by the state legislature, swine breeders are able to point with pride to the fine swine pavilion and show ring that now adorns the state fair grounds, the most complete building of the kind in the country today.

The president referred to the fact that the breeders had completed one of the most successful years in the history of the breeding of improved swine, the sales of the past season, while being clear of fictitious values and boom prices, having broken all records measured from an actual cash standpoint while the demand seems to be increasing for good breeding stock of all the breeds of improved swine. The South is fairly clamoring for hogs of all the leading breeds for breeding purposes, denoting the fact that they have found in the improved hog a great improvement over the old razor-back hog. The market for hogs for slaughter, while not as high as a year ago, is yet good and corn marketed by the hog route is bringing a better price than when sold to the elevator, besides keeping up the fertility of the farm and saving the freight. The importance of the swine industry of the state stands third, only being exceeded by the value of horses and cattle. The value of the swine of the state January 1, 1911, was $73,000,000, according to the treasurer's returns.

President Watson called attention to the agitation about the score card or breed standard. The present types of our improved swine have taken years of persistent effort and time to bring about and any radical changes should be made only after deliberately and carefully considering the possibilities of improving swine. It is always easier to tear down than to build up. Therefore, it behooves breeders to be careful and not be carried away by fads and fancies.

THE STATE FAIR A SCHOOL FOR THE YOUNG BREEDER.

The above subject was discussed by F. L. Emmert, of Mason City, who began by stating that the state fair is the most practical school for the young breeder. Some will say the farm is the most practical school, but at the fair he has all the old and best breeders there as his instructors and gets advice from them. The young breeder can obtain a great deal of good just by going to the fair to visit, but the most good is to be there as an exhibitor. The first thing that the young breeder should and does learn at the fair is to get a better idea of an ideal hog or standard of perfection, for he not only sees the best individuals of his own breed but of all breeds. A very common error of new breeders is that they have no ideal hog, although sometimes they think they have the best hogs. It is very essential for the young breeder to establish a standard of perfection for no one can win success without an idea of what he wants and then working up to it. Still another thing he can learn is in regard to feeding and management, although the practical part of feeding and management must be learned on the farm. No one can tell anyone else how to care for a herd unless he has had some experience, but if a young breeder has been having trouble in any way he can get advice from older breeders. Another thing is in regard to sales. That is one thing that is of great benefit to the young breeder. He can compare his stuff with what other breeders have there, compare his prices, and if his stock is up to the standard and his prices are right, his customers ought to be satisfied. If it is not up to the standard, he is the one who gets the most benefit from being at the fair, for he can see for himself that he must do better or he will not stay very long. And having had that experience, he will come back in a year or two with a herd that he is not ashamed of.

PURE-BRED SWINE AND THE TENANT FARMER.

Mr. S. D. Mills, of Ames, Iowa, gave an interesting address on pure-bred swine and the tenant farmer. He called attention to the fact that Iowa has over 30 per cent rented farms. Illinois has a large per cent. Illinois and Iowa have the largest per cent of any states in the Union. A large per cent of these farmers are yearly tenants. A man rents a farm for one year and then moves away and some one else takes his place. One reason for this is the rapid advance in the price of farm lands which has caused the speculative holdings of lands and men who buy farms for speculative purposes will not lease for more than a year so as to be able to sell and get more for the land. There is not much encouragement offered to this tenant farmer on the average farm to keep any kind of live stock. He cannot afford to pay the rent and graze the land and with the conditions under which we have to farm now he can hardly go into the dairy business. It is not in the province of any tenant to go into the pure-bred business. He doesn't know where he is going to be and can't go ahead, but it is best for him to keep good stock. He should not go out and pay the highest price for his breeding stuff, but he ought to buy them of one breed, buy them pure and as near uniform in type as he can and keep them so. When it comes to the males that he gets to mate with the sows, that is where breeders have their opportunity to obtain a permanent customer by furnishing the right kind at the beginning. This male that he buys should be a good individual of as pure, strong blood lines as it is possible to get. He need not pay attention to the fancy points, but to the points that mark the breed and the type that he wants. He should pay particular attention to having a good, vigorous, strong pig and one that will be a good economical consumer of his feed.

We are quite apt to quote all the good males that we can find in the pedigree, but how about the other side? Are we giving it the attention we should? The chances are that if the pig comes from a large litter that he will be a good feeder. Our dairy friends pay as much attention to the males and finding out the blood lines and producing lines of the females back of them as they do in selecting the cows they put in the herd as producers. Can we trace our pigs back and see if this pig's dam or that pig's dam was a good mother? It is very essential to the tenant farmer if he is going to raise hogs at all to know something about the history of the pigs he buys along this line.

In the discussion that followed Mr. Mills' paper, W. Z. Swallow called attention to the fact that the picking of brood sows is one of the main things in the herd. Good mothers and good milkers will raise good litters, and if you keep it up you will improve your herd right along.

Mr. E. C. Stone, of Peoria, Ill., disagreed with Mr. Mills about renters not keeping pure-bred hogs: Moving, he thought was not a menace to the fellow in the pure-bred hog business. The farmer who is renting the land is the man who should be in the pure-bred hog business. The man who owns the farm and has the money to keep him going can have the cattle and the horses and the sheep, but the hog business always pays. Whenever the tenant farmer has a pig on the farm he has money. It is the only animal that you don't have to hunt the buyer for. The pure-bred takes no more feed, care or shelter than the grade hog if he is the right kind.

Mr. R. W. Halford, Manning, Iowa, gave some first-hand experience in his comments on Mr. Mills' paper and among other things said:

This spring I went on a farm where there was practically nothing except the farm—no hog house or anything but fence for cows. I drove out about forty head of pure-bred Poland Chinas and got the man to allow me to put up some fence. Then I made some individual hog houses and constructed shade out of some old boards and I have hogs of all sizes and they are doing just as well as when I had them on $150 land and a $500 house to put them in. You can raise them just as well as you can on a farm where you have spent several thousand dollars fixing up houses, etc., to raise them in.

Others who discussed Mr. Mills' paper were Silas Igo, R. J. Harding and O. W. Browning.

EQUIPMENT OF HOG FARMS.

This subject was taken up by George T. White, of Dallas Center, Iowa, who in part said:

While I was raised with hogs I never raised any pure-bred hogs until a few years ago. Some of the things I have to say will conflict with some things that have been said. Not very long ago I read an advertisement of a book on swine raising, so I bought it and read it and there was actually only one new idea in it and that one idea I don't believe. When we speak about equipment we usually think of buildings first. My idea of equipment for raising pure-bred swine is that you must have something warm and comfortable because you must have your pigs come on early in the spring. May and June pigs won't make a success because farmers want bigger pigs in the fall.

A hog farm properly equipped must have a fair-sized central hog house. I spent considerable time in studying out the plans of my hog house two years ago. This house is twenty-three feet wide and fifty feet long, faces the south; pens seven by eight, and alley seven feet wide. The partitions are all on hinges so they will swing around cross ways and the cross pieces all on hinges so you can turn it from a dozen small pens into two large ones. There is only one door which opens out into the orchard and pasture beyond. I have two good-sized windows for each pen in the south side and in the upper part two full windows. No matter when the sun shines my hogs will get it. The floor is cement throughout and level, but if I were to build again I would build the alley floor level and the pens with about two or three inches slope. Then in the summer time you could have a small pump and could wash it perfectly clean and I believe it would be a good idea. I have a tank on the ground and a large pump and it is easy to get what water I need. The house is connected at one end with the barn and I have a chute where I can pitch my bedding from the barn into the alley of the hog house. At the south I have a crib and two bins and between the two bins and the corn crib I have a sheller and a grinder and a four-horse-power gasoline engine. I can shovel my corn into the sheller from the crib door and run it into either one of the bins and from the bin into the grinder and back into the other bin and the meal and the water are only four or five feet apart.

But you can't get along with just one hog house, no matter how large it is. A man should have some individual hog houses and perhaps some permanent smaller ones in other yards or pastures because you have to divide your sows up, putting three or four together, and you can move the individual hog houses into the different pastures on runners. I don't use the individual hog houses for farrowing any more, because it is too much work. It is easier to take care of them in the hog house without going out into the weather, which means a good deal along in February or March.

In the discussion that followed Mr. White's paper R. W. Halford said that he had a cement floor and found it satisfactory. It is sanitary and easy to keep clean. He endorsed the cement wallow. He simply made a ditch and put a wall about four inches in the ground and run it about eight inches or ten inches above the ground and then put in the floor about two inches thick. He runs in the water every two or three days and the pigs run there whenever they want to. He puts in a little dip or oil and doesn't need to be afraid of any of his hogs dying with the heat. The wallow is eight by ten and large enough to accommodate thirty or forty shoats. For more than that you would have to make it larger. He put a small tile at one end and made a plug for it so he could let the water out, but sometimes the hogs rooted it out when he didn't want it out, so he plugged it up and dipped the water out.

L. C. Reese, Prescott, Iowa, said:

I don't just agree with the first brother in regard to the larger hog houses. Up to five years ago I had a hog house that cost me nearly $1,000. Then I had the misfortune to lose it by fire. I never raised as good pigs in that hog house as I have raised since. I have now twenty-six individual houses. When it comes farrowing time I hitch an old horse to a sled and I can feed them and care for them as quickly and easily as if they were all in a large hog house. And when they farrow you won't have the trouble with one sow disturbing all the rest. To build a hog house now about sixteen by thirty-two will cost you about $375 or $400 the cheapest way you can. That will accommodate about twelve sows which gives them a pen six by six with a four-foot alley way. You can build individual farrowing pens at about $12 apiece, and you can put them wherever you want them. You can tell just what each sow is doing and the pigs won't rob other pigs. Now as to tenant farming again. My mother now has twenty-one tenants and if you will go with me and follow around just three months out of the year and see the expense put on some of these tenant farms you will say the landlord is not all to blame. As a rule if the landlord has a good tenant he will try to keep that tenant. Another thing in favor of individual farrowing pens is that it gives them sixteen feet of dirt floor at all times and right here is one thing that I might add. If you are bothered with thumps if you will get some earth and get it good and dry and give it to your little pigs you won't lose them.

On this topic R. J. Harding said:

I have a large hog house. When I built it I supposed that was the right thing to do. I didn't have the misfortune of being burned out and it comes in pretty handy yet, but it wasn't very long before I found out that it was just as Mr. Reese says—one sow would jump around and up would come every sow, thinking something was wrong with her pigs. I don't use anything else now but individual hog houses.

H. F. Hoffman, Washta, Iowa, commented as follows:

You ought to keep them separate and they will do much better. We have both large and small hog houses and we have all our pigs farrow in the main hog house. I will admit that if you keep so many together they won't do so well, but we don't aim to keep too many together. As far as I am concerned I will take the large hog house as a matter of convenience. We have water, stoves and a cement floor and it is not much to take care of them and I have not had a pig with thumps for ten years or one with scours. Our hog house is well ventilated and it is not damp. We have some individual hog pens and use them sometimes, but it always seems to me you can get better ventilation in the large house.

BROADENING THE MARKET FOR OUR PORK PRODUCTS.

Mr. W. J. Crow, of Webb, Iowa, had prepared a paper on the subject, "Broadening the Markets for our Pork Products," which was read by the secretary, Mr. Crow being prevented from attending the meeting on account of illness. Among other things he said:

The first question is what to do or what should be done, taking into consideration the cost of production. Whatever is done should be done at a profit to the raiser, as he is the man who brings into existence a necessity of life, and he should be considered the first profit sharer. Without this, our industry would be a failure. If we went to the butcher shop to buy a piece of pork loin and the butcher would cut us off a piece nine-tenths solid fat and one-tenth lean, and we had to buy it this way if we bought at all, would we not soon turn to some other animal that did not carry as large a percentage of fat for our main meat diet? Taking this for granted as being true, we are confronted today with the problem of furnishing the meat-eating public with the kind of meat that they most relish. This increases the amount consumed by stimulating the taste for the product. We must bear in mind that the hog has to compete with all other meat animals. How can this carcass be improved upon so as to increase the percentage of palatable meat? Right here is where we should get our shoulders to the wheel, use our brains together and success is bound to follow our efforts.

Growth is flesh. Fat is finish. Breed and feed for growth, shorten the fattening period, then we would be able to show a profit on the last 100 pounds of weight added to the carcass, equal to or in excess of the former 100 pounds, and when the packer dresses out the animal he will have a greater percentage of meat to sell over the percentage of lard. Lard is bound to be cheap, as petroleum, today, is the standard of our lubricants. The great cry for early maturity has been overdone or has misled us. It has developed for us today a piece of lard, instead of a piece of palatable meat. This is the early maturity of fat or finish. On the other hand, I do not believe that we can overdo the early maturity of growth or flesh. This means the strengthening of every organ in the animal, keeping the absorbing capacity of the bowels and stomach at its best, thus improving by getting more strength out of the feed consumed, for when fat contracts the intestines it lessens the power of the animal to get out of its feed all that it should get out of it. This means waste. The length of the bowels of a hog is forty-nine feet. It is just as long in a sucking pig as in a matured hog, so it stands us in hand to develop the size of the organ, making it bigger around, enabling the animal to have greater power to digest the food that it eats.

We should take more lessons from the dressed carcass; this would give us a better understanding than to take all our lessons from the outside. The outside should only be an index as to the cutting value of the animal and if the inside is properly provided for the outside will take care of itself. The idea of carrying a pig from birth in full fat form until it reaches the block or breeding pen is not only ruinous to the breeding qualities but has caused our experiment stations to show an extra cost to the last 100 pounds of weight. This should be the cheapest. Excessive fat at an early age is one of the greatest causes of a lack of vitality in our swine. Six weeks is long enough to feed a hog to finish for the market. Carry piggie along with his flesh so that two weeks will bring him to full feed and four weeks of full feed will finish him. Then put him on the market at any age to suit the feeder.

The entire evening session was given over to the expert swine judges and a discussion of the revision of the score card. Mr. Hoffman said that there has been a good deal of talk for some time about the score card and the advisability of revising it. We thought it best to have a little talk along this line at this meeting and we hope to hear from every man who has any suggestions to make. If we make an attempt to change the score card we must remember that it will not affect only ourselves but those to come after us. Any change that we may make may be for better or for worse. Mr. Hoffman continued:

If you read the American Swine Herd you may have read the controversy that has been carried on in that paper. I think it has done some good in one respect at least, that it has aroused some thought. I speak of this because I think that the articles that have appeared in that paper on this subject are typical of the idea that is in the public mind. Two of these articles state that the score card is neither harmful nor beneficial, but it is simply red tape and that it is of no practical value to the farmer. If this is true we might as well adjourn this meeting and go home. It is folly for us to spend our time and money if it is of no use to us, but I believe that it is and this article states that while the score card is of no practical value that it is good in one way—as an educational chart to place ideals in mind. That is really the intent of the score card and if it will do that and make breeders raise better hogs it will do all that was intended originally. We have two classes pursuing different methods, the breeder and the farmer. I don't know which is above the other, if either is. Therefore, I say that if the score card will place ideals in the mind it will enable the breeder to more speedily develop his animal.

The statement is further made that the person who goes into the show ring to judge hogs will find it such a long drawn-out process to use the score card that it would be impractical. Even if the fair management would hold the fair open for the length of time that it would take to do this, he would not do it for the reason that he sees himself that it is impractical. But when the judge goes in the show ring and passes judgment according to his own ideals, where does he get his ideals? We have already admitted that the score card places the ideal in the mind.

They further say that it is not dependable because two persons may score the same animal and not get the same answer. That is true. I will admit that if they were to score the same animal and get exactly the same result it would be more convincing to the observer, but even though they come out several points apart you will find if you examine their cards that the relative points are about alike, thus demonstrating about the same valuation upon each division. They claim that it is not science or dependable for the reason that we do not get the same answer, but the advocates of the score card admit that same thing themselves. They do not claim that it is exact science, but it is the nearest approach to it that we have and there is nothing that will place the ideal in the mind of young breeders as quickly as the score card.

Some think that if they can get a certificate that is about all they need. The score card is not a thing to be defied. It is meant to be used to place the ideal in the mind and let it go at that. It is also said that it is made a hobby of by some and abused by others. If we make a reasonable use of it I do not think there is any system known to men that will place the ideal in the minds of young men more quickly and one of the very first things a young man needs when going into business is an ideal. He wants to have the ideal in his mind and then work up to it.

So I think that it is a mistaken idea to think that the score card is impractical, because I believe it is a great help to us and has been a great aid in bringing the business up to where we have it today. We must remember one thing—that this is not a meeting of breeds or types, but a meeting of swine breeders for the advancement of the industry as a whole. If we are going into this and are going to attempt to revise the score card we must take everything into consideration. Some think it should be discarded, but I think only a few have that idea. There are a large number of practical men who think that we should not change it at all, because they think we have a good score card and we may make it worse. Still I think we could make some slight changes that would be beneficial and we should hear from everyone before we make any change. If we are going into this we must place ourselves in the other fellows shoes instead of trying to make a score card to fit our own individual breed or herd. I want to say that I don't believe that the men who formulated this score card which was adopted in 1886 were visionary, but practical men. I believe they laid their plans wisely and well. But at the same time, if the interest of the industry is to be advanced by a change I think we should do it. I believe every one of those men would say the same thing —that if this score card is not commensurate with the present conditions, if the interest of the country would be advanced by making a change, by all means go ahead and do it. I hope that we will go into it with this feeling—that we are doing it for the good of all. I believe we can formulate a score card broad enough for us all to stand on and have no controversy. If we do revise or change the score card I hope that future generations can conscientiously say as we do of those who formulated the card as it is, that the men who met here in June, 1911, were a good, practical set of men with broad and generous minds.

On this same subject a letter written by Mr. S. McKelvie, of Fairfield, Nebraska, who was unable to be present, was read by the secretary. It follows:

I am sorry and regret very much that I cannot be with you. I have always enjoyed your meetings. While this is a very busy season of the year for swine men to get from home, as all hog raisers while making a specialty of the swine industry are engaged in mixed husbandry as well, yet enough have attended these meetings to make them of interest and advantage.

In fact, if it had not been for your Iowa breeders taking hold and assisting the score card would have died in its infancy. After its conception and being born in the east it came west to grow up with the country, making its first stop in Nebraska, but finding it to be at that time too much of a short grass country, its next meeting place was assigned in connection with your state swine meeting at Des Moines where it has since remained and due to their credit has been kept alive during a time of somewhat adverse conditions toward its development. Many have assailed it as being the cause of about all the ills the pure-bred swine business has fallen heir to.

It is at the risk of being called a crank that a word is said in favor of the score card. Just why this should be we are at some loss to know, unless when first brought to light too much was claimed for it. We well remember many years ago when swine breeders began to agitate the advisability of some sort of a standard of excellence whereby a more uniform type of animal could be produced and shown at our fairs. As we remember, this need of uniformity was most felt among the breeders of Poland Chinas, this coming about no doubt from the fact that this breed, being made up from the mingling of the blood of some four breeds and at that time as a pure bred (showing the skill and handiwork of the American farmer) was of recent origin. In fact, the originators of the score card were breeders of Poland China swine. Prominent among them were S. M. Shephard, "Uncle Jimmie" Hankinson and others of Ohio, Indiana and Illinois whom many of us older breeders have well in mind.

Since the origin of the card a similar standard has been adopted for all pure-bred breeds of swine, differing in the main in the breed type of the different breeds. This, we believe, is as it should be, especially in the corn-belt district. While we have a distinct difference in breed type, the main considerations, i. e., that of productiveness, feeding qualities and commercial value, are or should be the same.

As we have said, the original idea in formulating the card was to fix a standard of excellence that we might have in mind to attain to in our business. We believe this was a wise thing to do and should be retained. If by study and discussion it is found wanting, then it should be revised. All breeds of swine should be represented in the revision.

The value of the score card as an educator to the mind of the young and new swine breeder cannot be questioned. While too much has been presumed for the card in its first introduction, such as its use in the show ring, yet good has come from its existence. When we take it into consideration each division at a time we find it describes that which we are striving to reach in almost all divisions.

The wording in the detailed descriptions might be simplified so as to convey the meaning with less study. Also some divisions may not have enough consideration as indicated by the number of points assigned the division. We believe more consideration should be given size. We advanced that last year from five to six points, taking one off color, leaving it two.

One objection we find made to the score card is that it leads to a small hog, as the highest-scoring one is the short one. If this be true, it is because the scorer does not give proper consideration to length in back and loin and side and ribs. It might be well to make special mention of length in detail of these two divisions. They are both important divisions, the former having fourteen points and the latter ten, almost one-fourth the entire carcass. In each division the words "of good length" could be used.

We have found the more serious trouble with the score card is that most of us swine breeders do not become acquainted with it. Should you ask in your meeting how many are there present who can give the number of divisions in which the hog is divided and the number of points assigned each division according to the card, I doubt if a single hand would go up. Further, when describing a division, from lack of acquaintance with requirements and from custom, we say we like to see a hog thus and so. This at once destroys the very aim of the card, which is to get away with numerous likes and get one standard for all.

The time for practice at these meetings is too short; the mode adopted is wrong. We do not have the time to spare from home to get into the real merits of the work. At these meetings we usually score an animal from each of two or three breeds. While a test is better made of the worth of the card, as well as the ability of the scorer by taking three good, well-developed, even animals of one breed, they cannot be selected so good but one is better than the other.

The one footing the highest score should be the best. While two students may not and do not score the same, yet the sum or aggregate of their score may show the best animal the highest scorer. To illustrate, one may score the best animal 80, second best 78 and third best 75; another may score the best one 83, second 81 and third 78. Both are practically right and the score card is also correct inasmuch as it has led to the best animal. While it has been condemned as being guess work, with study and practice it almost invariably leads to the best animal for first place.

A. M. Caldwell, Champaign, Illinois, thought the score card was intended as an educator and never was practical to judge hogs by. If you don't have some standard of excellence you are certainly fighting the air. Some men never know what constitutes a good hog and it is sometimes amusing to ask a man what is the matter with this hog or that hog. "Why," he says, "He looks all right to me." Then if you will point out to him the difference in the feet and hams and different divisions he will see for himself and that was the idea of the score card and about all its most ardent advocates claimed for it. Some have tried a few times to judge hogs by it, but it was too slow. They got the right hog when they got through, but it took too long to do it. It is unquestionably intended as an educator for the beginner and it is of practical use to the farmer or anyone engaged in raising hogs. There could be some changes made in it, particularly the Poland China score card which calls for different weights for the different ages and there is not anybody showing hogs that weigh as light as the score card gives them. They talk about little hogs or big hogs, but they all weigh more than the score card calls for. If you will take the score card and the prize-winning animals that you find at Iowa and farther east you will find that the score card comes just about as near fitting the champion animal as anything you will fix.

R. J. Harding said that the score card is intended to give an ideal to the new beginner and to all of us that we might have an idea of what constitutes a hog as he should be. The score card teaches you to look at the hog a piece at a time and if you are looking for defects you will find them quicker. There may be some points that would be overlooked by the general observer, but if you apply your score card you will find it. At the same time it has done some harm by being misapplied. Some people have understood that the hog must be up to the score card or else he isn't much of a hog and of course we don't find many of them. There are some changes we can make, but on most points it is about right. If you would add a little to size and give it a little more prominence it would be a good thing.

J. M. Stewart, Ainsworth, thought that the score card was all right. We might add a little more to size because there are very few yearling males that don't come up to five and a half or six hundred pounds. There might be a little change in the wording of some of the descriptions that would be an advantage also.

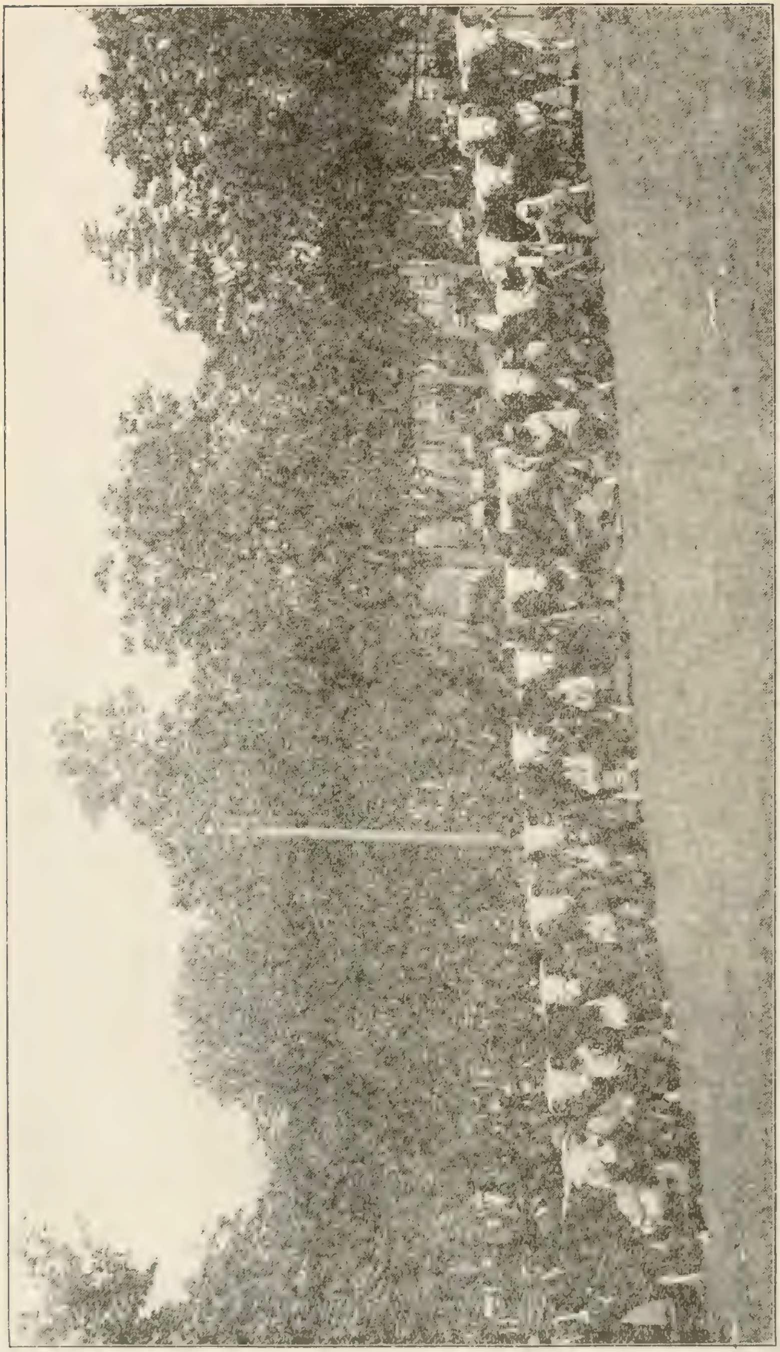
L. C. Reese stated that the score card has been of the greatest educational aid to him. It points out to you the best points. What does the chest denote? If you have a hog without any chest it has no lung power and that is why it has twelve points.

When a young man studies the score card, it can't help but be a great benefit to him.

The committee appointed at the last meeting to formulate a revision of the score card made their report following this discussion. This committee was composed of Messrs. W. Z. Swallow, Samuel McKelvie and H. F. Hoffman. Their recommendations were that the scale of points should be changed as follows: Sides and ribs reduced from ten points to nine, feet and legs reduced from ten points to nine, color reduced from three points to two. size increased from five points to eight. The presentation of the recommendation of the committee brought out further extended discussion and a wide range of expressions. The final action, however, was a vote authorizing that the card be changed by reducing color to two points, sides and ribs to nine points and increasing size to seven points. No other changes were recommended. It was decided to make no effort toward a revision of the detailed description.

Election of officers resulted in the entire official force being reelected for another year.

Messrs. R. J. Harding and H. C. Sheldon were appointed a committee to have in charge the scoring exercises which took place Wednesday forenoon. A Berkshire barrow furnished by the state college was the only subject for scoring, as other parties who were depended upon for specimens of the other breeds failed to provide them. Six gentlemen took the scoring examination, but the committee did not find any of the cards sufficiently correct to justify issuing certificates.



A GROUP OF TWO YEAR OLD HEREFORDS
Iowa State Fair and Exposition, 1911

PART VIII

PROCEEDINGS
OF THE
Iowa State Dairy Association
Held at Waterloo, Iowa, October 10th to 14th, Inclusive, 1911

OPENING SESSION

WEDNESDAY MORNING, 10:30.

President Shoemaker: The hour has arrived for us to open the thirty-fifth annual convention of the Iowa State Dairy Association. We will open the meeting with prayer by the Rev. Geo. B. Shoemaker.

(Prayer.)

The President: I am now about to introduce to you a man whose friendship and acquaintance I am glad to own. He is a man who has grown up with Waterloo. The only thing between Mr. Kiester and Waterloo and me is that Kiester and Waterloo have grown up so much faster and bigger and better than I have. There ought to be in every town a man who will devote his entire time and who will work to further the interests of the city; to work of an educational nature. In Waterloo, that man is Harry Kiester. He never is too busy to do something for someone else, and I have great pleasure in introducing Mr. Kiester to you.

ADDRESS OF WELCOME.

H. E. KEISTER, WATERLOO, IOWA.

Mr. President, Ladies and Gentlemen: It certainly is a pleasure for me, in behalf of the city of Waterloo, to welcome the buttermakers and dairymen of Iowa to our city. Last spring when the officers of this association met in Des Moines, some of the gentlemen of Waterloo asked me to go down and make a bid for your convention and show. I went down and made that bid single-handed, and after a battle with five men from over the entire state I succeeded in convincing those men that Waterloo was the best place in the state for them to meet. I had faith in this association and faith in Waterloo people as well as in the Waterloo way. I felt at that time that if you would come here we would show you a dairy cattle show such as had never been equalled, and I am happy to say that the best authorities on the ground tell me that we have here at this time the largest assemblage of high-class dairy-bred cattle ever gotten together in America. That shows some interest in the dairy business.

It is, therefore, a great pleasure for me, in behalf of our business men, our manufacturers, our citizens and our dairymen, to welcome you to our city, and we want you to feel that welcome. Our people have opened their homes to you. If there is anything you want that you don't get, go up to some Waterloo man and you will get it. If there is any way to make our welcome more hearty we will have to be shown. We hope you will come again and meet with us and that we will have on these grounds even a larger and better show than this one. I am glad to see so many here this morning, and again I welcome you.

The President: To respond to Mr. Kiester's address of welcome we have selected one of the best known dairymen in the state. He lives at Buffalo Center and he calls his farm the "Buffalo Farm," but he doesn't breed buffaloes. A good many fellows, however, who have shown cattle with him from time to time have felt that they were buffaloed. I have the pleasure of calling on R. B. Young.

RESPONSE TO ADDRESS OF WELCOME.

R. B. Young, Buffalo Center, Iowa.

It is a privilege to respond to an address of welcome given so heartily, and we have seen that this welcome came from the heart. It shows in the faces of your business men, your manufacturers, your citizens and your dairymen and it is shown by your actions towards us. We certainly understand better now than ever before why the Waterloo way wins. I know I voice the unanimous sentiment of the members present when I say that we appreciate this welcome. I thank you.

The President: The Iowa State Dairy Association has been especially fortunate in having, for many, many years, been wise enough to select very efficient secretaries. I don't believe it is disrespectful to any former secretaries to say that certainly none of them have ever eclipsed the work done by Mr. Ross the past year. He has been busy night and day, and, according to the last figures, he has secured 1,000 members for the association. We will now listen to Mr. Ross's annual report.

Mr. Ross: Owing to the fact that a great deal of last year's show was handled by Prof. Van Pelt I will simply go over briefly the financial statement of the past year.

SECRETARY'S FINANCIAL REPORT.

From Jan. 1st, 1911, to July 1st, 1911.

Jan, 1, 1911, balance in treasury	$1,906.65
Jan. 1, 1911, received from Secretary Johnson	3.68
Feb. 25, 1911, received from memberships	50.00
June 24, 1911, received for memberships to date	284.00
	$2,244.33

J. J. ROSS, Secretary.

The President: The next will be our treasurer's report. We have also been fortunate to always get a good treasurer, and the work of Mr. Odell has been appreciated.

TREASURER'S REPORT.

Annual report of the Treasurer from July 1st, 1910, to July 1st, 1911, with the Commercial National Bank, Waterloo, Iowa.

RECEIPTS.

Oct. 15, 1910—Membership	$ 296.00
Oct. 15, 1910—City of Waterloo	350.00
Oct. 15, 1910—International Harvester Co.	10.00
Oct. 15, 1910—J. H. Sindlinger	30.00
Oct. 15, 1910—J. J. Ross (three tubs butter)	16.00
Oct. 15, 1910—Kressler Silo booth	25.00
Oct. 15, 1910—Ayrshire Breeders Assn.	25.00
Oct. 15, 1910—L. M. Taylor Lighting Co.	15.00
Oct. 15, 1910—Chamberlain Machine Works	30.00
Oct. 15, 1910—Holstein Freisian Assn.	25.00
Oct. 15, 1910—Meals, lunch, ice cream (privileges)	125.00
Oct. 15, 1910—E. D. Corey, shows, merry-go-round, etc.	50.00
Oct. 15, 1910—Steffer & Brotchinger, novelty goods	10.00
Oct. 15, 1910—Laughing gallery	5.00
Oct. 15, 1910—Target shooting	15.00
Oct. 15, 1910—Six ball ping pong	10.00
Oct. 15, 1910—Gate receipts	1,939.67
Oct. 18, 1910—Diamond Crystal Salt Co.	30.00
Oct. 18, 1910—W. B. Johnson (tub butter)	5.35
Nov. 5, 1910—Gude Bros. Kieffer Co., sale of butter	912.80

Nov. 5, 1910	Elov Errickson	5.00
Nov. 5, 1910	Zimmer & Dundak	5.00
Nov. 5, 1910	Pettit & Reade, by C. H. Hilman	5.00
Nov. 5, 1910	Jacob Jacobson	5.00
Nov. 5, 1910	J. G. Cherry Co.	15.00
Nov. 5, 1910	American Milling Co.	10.00
Nov. 5, 1910	Gallagher Bros.	10.00
Nov. 5, 1910	Spurbeck Lambert Co.	10.00
Nov. 5, 1910	James Rowland & Co.	5.00
Nov. 5, 1910	Christ Hansen, Lab.	5.00
Nov. 5, 1910	Des Moines Silo & Mfg. Co.	10.00
Nov. 5, 1910	Diamond Crystal Salt Co.	10.00
Nov. 5, 1910	Northy Mfg. Co.	5.00
Nov. 5, 1910	P. F. Brown & Co.	10.00
Nov. 5, 1910	American Box Co.	5.00
Nov. 5, 1910	W. O. Saxton & Co.	5.00
Nov. 5, 1910	Wells Richardson & Co.	10.00
Nov. 5, 1910	B. F. Bitten & Co.	5.00
Nov. 5, 1910	Gude Bros. Kieffer Co.	10.00
Nov. 8, 1910	J. B. Ford Co.	10.00
Nov. 25, 1910	John Scholl & Bros.	5.00
Nov. 25, 1910	Geo. M. Rittenhouse & Co.	10.00
Nov. 25, 1910	McKay Bros.	10.00
Nov. 25, 1910	Beatrice Creamery Co.	5.00
Nov. 25, 1910	Creamery Pkg. Mfg. Co.	15.00
Jan. 2, 1911	H. G. Van Pelt	277.69
Jan. 14, 1911	W. B. Johnson	3.68
Feb. 27, 1911	Membership	50.00
Mch. 20, 1911	Membership	53.00
June 1, 1911	Membership	66.00
June 15, 1911	Membership	12.00
		$4,587.19

DISBURSEMENTS.

Oct. 12, 1910	U. S. Express Co.	$ 11.55
Oct. 13, 1910	Premium for butter (gold)	60.00
Oct. 13, 1910	H. G. Van Pelt (cattle premium)	2,000.00
Oct. 15, 1910	Wells Fargo Express Co.	27.54
Oct. 15, 1910	American Express Co.	27.51
Oct. 15, 1910	F. L. Odell (present)	50.00
Oct. 15, 1910	W. B. Barney	8.22
Oct. 15, 1910	W. B. Barney	2.50
Oct. 15, 1910	F. W. Stephenson	17.98
Oct. 15, 1910	F. L. Odell	12.30
Oct. 15, 1910	E. T. Sadler	100.00
Oct. 15, 1910	W. B, Johnson	193.83
Oct. 15, 1910	June Connolly	20.00
Oct. 15, 1910	W. F. Mack	25.00
Oct. 17, 1910	E. L. Hanson (State Center)	5.16

Oct. 22, 1910—Whitehead & Hoag Co.	145.44	
Oct. 22, 1910—Phillo & Nutting	40.00	
Oct. 22, 1910—Edward C. Lytton	25.50	
Nov. 5, 1910—D. H. Van Pelt	27.40	
Nov. 5, 1910—Premium for butter	1,000.00	
Nov. 8, 1910—Byvank Transfer Co.	6.00	
Nov. 14, 1910—Lozier the Florist	3.00	
Nov. 14, 1910—Taylor Music House	9.00	
Nov. 14, 1910—Dr. Walter McHenry	2.00	
Nov. 14, 1910—W. H. Pew	18.15	
Nov. 19, 1910—Dr. Walter McHenry	28.54	
Nov. 24, 1910—Fisher Tent & Awning Co.	2.50	
Nov. 24, 1910—H. G. Van Pelt	35.14	
Nov. 24, 1910—C. H. Barney	29.20	
Nov. 24, 1910—E. S. Estel	11.05	
Dec. 5, 1910—Mike Hauer (pro rata)	4.68	
Dec. 16, 1910—Prof. M. Mortenson	12.77	
Dec. 16, 1910—W. B. Johnson	11.23	
Dec. 16, 1910—F. L. Odell	7.75	
Dec. 16, 1910—D. H. Van Pelt (labor)	70.00	
Dec. 16, 1910—C. H. Barney (labor)	55.00	
Feb. 1, 1911—Des Moines Eng. Co.	3.06	
Jan. 26, 1911—C. F. Curtiss	5.98	
Apr. 20, 1911—Whitehead & Hoag Co.	90.22	
Mch. 3, 1911—Robt. Anderson	26.50	
Apr. 20, 1911—Hotel Chamberlain	8.00	
Apr. 20, 1911—Prof. M. Mortenson	6.47	
Apr. 20, 1911—W. B. Barney	1.90	
Exchange on check	.10	
July 1, 1911 Waterloo Club (lunch)	5.15	
		$4,253.32
Balance on hand		$ 333.87

IOWA STATE DAIRY ASSN.

F. L. ODELL, Treasurer.

Annual report of the Treasurer from July 1st, 1910, to July 1st, 1911, with the Cedar Rapids Savings Bank, Cedar Rapids, Iowa.

RECEIPTS.

July 1, 1911—Cash on hand	$1,906.65
Oct. 3, 1911—H. C. Hargrove	28.00
Oct. 22, 1911—W. B. Johnson (for desk)	40.00
Dec. 31, 1911—Interest (from July 1st, 1910, to Dec. 1st, 1910)	37.66
June 30,1911—Interest (from Jan. 1st, 1911, to July 1st, 1911)	32.76
	$2,045.07

DISBURSEMENTS.

July 18, 1910—W. B. Barney	$ 1.00	
July 23, 1910—W. B. Barney	7.40	
Aug. 9, 1910—F. L. Odell	5.00	
Aug. 20, 1910—W. B. Barney	3.25	
Sep. 17, 1910—W. B. Barney	6.77	
Dec. 17, 1910—Treasurer's Bond	10.00	
Dec. 24, 1910—S. Davidson & Bros. (desk)	40.00	
Jan. 2, 1911—H. G. Van Pelt (loan)	300.00	
		$ 373,42
Balance on hand July 1st, 1911		$1,671 65
Loan to H. G. Van Pelt has not been returned		333.87
		$2,005.52

F. L. ODELL, Treasurer.

The President: I will now appoint the following committees:

Legislative: W. B. Barney, F. A. Leighton, W. W. Marsh, Senator DeWolf and John Andrews.

Auditing: L. L. Flickinger, Frank Brunner, J. T. Hanna.

Resolutions: R. B. Young, W. E. Mittlestadt, Prof. Mortensen.

Vice-President Stephenson: I think about eleven years ago this fall or winter I attended my first meeting of the Iowa State Dairy Association. During that eleven years this association has made a phenomenal growth. You remember for a number of years this question came up: "How are we going to get the farmers out?" You know that at our meeting in Waterloo last fall was the first time we ever had any great number of farmers in attendance. It was due to the untiring efforts of the officers of this association that the business men of Waterloo got behind us and here we are again this year with possibly five times the attendance of farmers we had last year. One of those officers is the president of the association, and it gives me pleasure to introduce E. R. Shoemaker, president of the Iowa State Dairy Association.

ADDRESS OF PRESIDENT.

E. R. Shoemaker, Waterloo, Iowa.

This is the 35th annual meeting of the Iowa State Dairy Association. Thirty-five years is a long time for an organization to have been in existence. There are younger dairy associations than ours. There are older ones. But, be they younger or be they older, the Iowa organization is called the peer of them all. And I say this not to boast, but to speak the truth and give credit where credit is due.

The Iowa State Dairy Association today is the largest organization of its sort in the United States.

The Iowa State Dairy Association today is the best known organization of its sort in the United States.

The Iowa State Dairy Association today is performing a more intelligent, more comprehensive and more helpful work than any other organization of its sort in the United States.

The Iowa State Dairy Association was the first organization of its sort in the United States to properly present its interests to its state legislature and receive from it appropriations for educational work in dairying.

The Iowa State Dairy Association has run more dairy trains (with the assistance of the railroads), held and attended more meetings, spoken to more farmers and sown more bushels of dairy seed than any other similar organization in the country.

The Iowa State Dairy Association was the first organization of its sort in the United States to exhibit at its convention, for educational purposes and demonstration work alone, representative animals of the various dairy breeds.

The Iowa State Dairy Association was the first organization of its sort in the United States to hold a dairy cattle show, with real money premiums in connection with its annual convention, and pay those premiums in cash—not conversation—before the exhibitors left the grounds.

For an organization of this sort to live 35 years is evidence of one of two things—either it is vigorous, and thrivng and helpful and prosperous and growing, or it is still living because everybody else is too busy to bury it.

I need not say that there are no signs of early death—no evidence of needing the undertaker—no preparation being made for a funeral.

We have been criticised at time for being a bit sensational in some of our work; but, for my part, I prefer a little sensation to the usual run of stagnation.

I believe that this organization has been successful because it has a mission—because it set about to perform that mission in a sane, sensible, practical, business-like way—because it interested in its ranks the services of the best talent the state afforded—because it adopted a liberal and progressive policy—and because it has always kept on working.

It has attempted and accomplished great things simply because there has been work, hard work and continuous work, but unison in the work.

Last year's convention and dairy show were an eye-opener to the dairy world. Go where you will and any man who keeps a cow will tell you something about the 1910 Waterloo convention of the Iowa State Dairy Association. It has done more, I believe, than almost any other one thing, except the work of the state dairy experts, to put Iowa on the map among dairy people outside and inside the state.

And this year's meeting is being carried out on a so much greater scale that it will attract the attention of the farming public of this and adjoining states in such a way as no national show held in a big city can do.

During the past year the dairy interests of Iowa have accomplished four notable things:

1. A renewal of the state appropriation (though reduced 25 per cent by the beef men riding through on our prestige) has been secured, and a number of important new laws passed, including a reorganization of the dairy and food department, that enables the commissioner to greatly extend his work and increase the usefulness of his department. And for these laws we need to thank especially State Dairy Commissioner Barney and our warm friends in the house and senate, in which connection we should not forget that though God made man, legislators make laws—and there isn't anything better at law making time than friends among the lawmakers.
2. A strenuous campaign of education through the efficient work of Dairy Expert Van Pelt and his assistant, Mr. Estel.
3. Increase of membership of our organization to nearly 800, much of the credit for which is due to the untiring efforts of our efficient secretary, Mr. J. J. Ross. We want to make it 5,000 in 1912.
4. Laid the plans for and developed the great dairy show and convention combined that is now under way.

But this is only a beginning. We feel that, of a sudden, this organization has jumped into doing great things. But what is there before us? And what do we need to perform it?

The Iowa State Dairy Association is coming to be, after years of evolution, what it ought to be, a comprehensive organization, embracing every phase of the dairy business. For years we put great stress on the butter manufacturing end. We should give even more effort than previously to this branch of our industry, but continue our work of broadening out. The dairy cattle are being nicely taken care of and the dairy farmer interested. I am especially pleased to see the still further steps taken this year—the milk exhibit—the convention of ice cream manufacturers—the proposed organization of the retail milk dealers.

The development of the dairy business in Iowa depends on just two things—getting our farmers to really take time to think, and then getting them to do what they know they ought to do after, in sober thought, they've figured it out. The great drawback to the dairy industry today is the foul thought and false information that has been scattered all over this state by people who ought to know better—and who really do know better. There is no such permanent thing as a dual-purpose cow—and any man who can think at all can prove it. I say no such permanent thing, because there are some so-called dual-purpose cows that are heavy milk producers, but unless you can find bulls of the same breed that will produce from these cows heifers that will be better cows than their mothers, your progress toward dairying is backward and your whole dual-purpose cow for the dairy has gone back to beef.

James J. Hill tells of riding for days with a companion calling on farmers in Canada. It was winter and the farmers appeared to have little to do. His companion inquired how they amused themselves during the long winter evenings. "Well," said the farmer, "sometimes we sit and think, but mostly we just sit."

We don't need to go to Canada to find occasion for application of this. The trouble with all of us—dairymen and buttermakers—is that our thinking is backed off the boards by our sitting.

What has been accomplished in a dairy way up to this time is due to the efforts of comparatively few. And in this connection I am reminded of the traveling man who left instructions at the village hotel to be called at 3 a. m. He was called, and as he went out noticed a placard hanging on the door of his room—a card showing there had been a rap on his door at 3 a. m. as ordered, and down at the bottom, in the handwriting, evidently, of the boy who awakened him, were these words: "Many are called but few get up."

And that's about the way in the dairy business. In this great field hundreds of thousands are called to labor by active and intelligent participation therein, but few, so few, comparatively, get up. The field is large and growing larger. The opportunity is great and growing greater. There is a place for everyone and a profit for everyone, no matter how many may engage in dairying. Those of us who are in it should breed more carefully, feed more intelligently, work more diligently, and whether we are actively engaged in dairying or creamery work, there are a multitude of ways to help. At least we can boost—

Do you know that there's lots o' people
Settin' round in every town,
Growlin' like a broody chicken,
Knockin' every good thing down?
Don't be that kind of cattle,
'Cause they ain't no use on earth.
You just be a booster rooster,
Crow an' boost for all you're worth.

The President: The executive committee of our association felt that the subject of creamery power was an important one, and we have assigned that subject to Mr. Sadler, who will talk on "The Power Problem in the Creamery."

THE POWER PROBLEM IN THE CREAMERY.

E. T. Sadler, Waterloo, Iowa.

Mr. Chairman, Ladies and Gentlemen: The power problem in the creamery is one that has been overlooked and neglected more than any other phase of the creamery business despite the fact that it is one of the most important. The process of manufacture has been developed and improved until today it is purely scientific. The haphazard, hit-and-miss ways have given way to the theories taught in our dairy schools. Cream is ripened to a certain degree of acidity, temperatures are watched closely, and in fact from the time cream or milk enters our factory doors it is handled by skilled men and treated, as I said, scientifically. I could go on and enumerate many things that are decided improvements over the old ways of making butter, but you are all familiar with them.

There is one feature of butter manufacture, however, that has never been greatly improved upon, and that is power. I'm not attempting to prove to you that our present power plants are not efficient, for they are, but I do say and have proved to my own satisfaction at least that they are not economical. On the contrary they are recklessly extravagant. In my recent article on this question I covered the ground as thoroughly as I could, so it will be necessary for me to repeat a good deal of it now.

One of the most important improvements in modern factory operation is the kind and cost of power supplied. Our large manufacturing concerns have expended thousands and millions of dollars the past few years in an effort to reduce their power cost, and their investment is paying mammoth dividends. These business heads were not looking for better power particularly, but for power just as good at less cost.

This is a subject which I have been giving considerable thought and attention the past few months, and the more thought I give to the cost of creamery power the more thoroughly I am convinced that enough money is being emitted through the smoke stacks of our creameries for which no value is received to completely re-equip each plant with new and modern machinery every six years.

Usually the most conspicuous part of a creamery exterior is a huge smoke stock from which there is almost constantly arising smoke and heat.

Go on the interior and no matter how small the plant you will find a 15 or 20 horse power steam engine and a boiler probably 10-horse larger in capacity. You will find the fire is held practically from one year's end to the other. Why? In order that a running head of steam may be acquired more quickly in the morning and to avoid freezing in the winter. You ask the secretary what his greatest item of running expense is, exclusive of the buttermaker's salary, and he will invariably tell you fuel. (In some plants it exceeds the buttermaker's salary.) Ask him why he burns so much and he will tell you that the engine can not be operated and steam furnished by burning less.

When I first began to study the question of power I asked myself: Why, if there is a cheaper method of furnishing steam and power, haven't the creamery papers and authorities brought it out? Why haven't these secretaries or managers studied out a way to reduce it? I concluded about as follows: When the large number of butter factories were built some 10, 15 or 20 years ago the hand separator was unknown and the whole-milk was delivered to the creamery. It took strong power to operate those five, six and seven large separators, and no creamery was equipped with less than a 20 or 30 horse engine. The same proportionate amount of steam and power is required in creameries operating separators today, but this steam and power can be supplied at a materially less cost, and this fact has evidently been overlooked heretofore by the majority of creameries.

As the cream system came on, the factory separators were taken out, but the same boiler and engine continues to furnish steam, run a churn an hour or so, a cream vat about that length of time, a starter can perhaps and pump water. The thought never occurred to them that less power was needed, and those who did think of it concluded that so long as the boiler and engine were already in and paid for they might as well use them. And so, many managers have thought and still think. They could not and can not see the economy of spending more money in order to save on fuel.

The idea that anything else but a big boiler and engine was practical escaped my serious attention until I became proprietor and manager of a creamery. As soon as I had to write checks for coal I began to wonder if it was necessary to feed a 30-horse power boiler and run a 20-horse engine just to run three separators a couple of hours a day, operate a medium sized churn and the few other appliances requiring power. I realized from the first that my power was costing me too much, but upon observation I saw that every other creamery was doing likewise. At the end of my first business year, however, I found that I had spent $471 for coal, or an average of $39.25 per month, and we only manufactured 101,508 pounds of butter. And at that I bought my coal by the car load direct from the mines at an average cost of about $3.90 per ton delivered to the creamery.

I began to look around for leaks. We relined our fire box, put up a new smoke stack, put on new valves and new packing. The result of this overhauling, of course, proved to be a considerable saving of fuel, but it did not relieve the continuous fire which had to be carried, and from which we were deriving little benefit. It did not shut off that smoke and heat I could see going to waste up through the stack.

And right here let me say that a great deal more fuel is consumed than necessary on account of defective stacks, poor draught, broken grates and boiler fronts which permit air to flow in and chase the heat out unused. I do not pose as an engineer, but I have found out a few things by experience which a great many buttermakers neglect. They know the difference, but they do not take sufficient interest, or the board of directors do not, to exert extra effort to have it otherwise. There is a knack to firing a steam boiler, and the buttermaker who simply throws in the coal and scoops out the ashes is causing the creamery company to pay abnormal prices for their fuel. As an instance to illustrate. I happened in on a buttermaker not long ago while he was carrying about 50 pounds of steam. He was in the boiler room and was just fishing out pieces of a melted grate, meanwhile offering a flowery tribute to the "poorest coal he ever shoveled" with an occasional reference to the manager. I looked at the coal and found it a good grade of block variety, and then I looked into his ash pit. It didn't take long to point out to him that the trouble was not poor coal but in poor firing. He complained of burning out grates every few weeks and of the coal melting over them, causing clinkers and stopping the draught. It was because he didn't keep the ashes from filling up against the under side of the grates. His method of firing was exactly like the foundry man fires a cupola—a layer of fire, a layer of iron and another layer of fire. In fact this is the only way they can melt even raw pig iron. No matter how good your coal, cupola firing will burn out your grates, cause clinkers and melt your coal instead of burning it. Do not let the ashes fill up from below and come in contact with the grates.

While a great deal of fuel can be saved by careful handling of boiler and engine, I contend that a creamery running two or three separators and the regular line of machinery does not require a 15, 20 or 30 horse steam power plant, and particularly is this reckless extravagance in gathered cream factories.

I sent out inquiries to several creameries in the dairy states asking about the cost of their power, and the information I received bears out my contention of extravagance. I found the average cost of reporting creameries operating separators to be $42.70 per month, and for gathered cream plants, $41.15. In other words, the creameries operating no separators are paying nearly as much for power as those running separators, which is convincing evidence that no attention has been given the subject of economical power. These reports show, too, that variation in cost of power is due more to cost of fuel rather than the amount of power required—another evidence of thoughtless habit. It is plain, however, that big boilers and engines are being used simply because the creameries several years ago started out that way, and until now no one has tried to break the habit.

Now the remedy I propose is not applicable without exception, for there are plants where the utmost economy is practiced. I believe, however, that 50 per cent of our creameries can reduce their power cost 50 per cent, and if this 50 per cent is worth saving to you, give it serious thought and consideration. I do not propose to recommend the running of creameries without steam, as that would be as impossible as trying to run them without milk or cream. I merely propose to show you how I, at least, have a sufficient amount of steam and power at a materially less cost. It is not economy to run short of either steam or power, but it is foolish extravagance to maintain a power plant from two to four times larger than necessary.

The gasoline engine is the source of power to which I direct your attention. Its application to the creamery is of comparatively recent date in view of the fact that a few years ago when all creameries operated a battery of separators steady power was necessary and the gasoline engine was too young an invention to have obtained that uniform motion which it possesses today. Then someone cried out that the odor of gasoline would taint the butter, and a prejudice was born that only a year or so ago began to give way to business judgment and discretion. The gasoline engine has been developed and improved until today it has reached the point of perfection and its economical power has been recognized in all classes of factories except the creamery. Now it is our turn to take advantage of it and cast all inherited tendencies and fallacies aside and use our own heads. We must break away from these because-others-do ideas and do more thinking for ourselves.

The operation of power separators requires just as steady and uniform power as it ever did, but I claim the gasoline engine will deal out that uniform power at an astonishing low cost compared to steam. Where will we get our steam? From a boiler the same as you do now, only use a boiler in proportion to the amount of steam required—not of the size our predecessors thought was necessary. For instance a small 8 or 10 horse boiler will operate your turbine tester, will heat your water, pasteurize your milk or cream and supply all the steam necessary for an average size local creamery and do it with a surprisingly small amount of coal.

Another prejudice which has grown against the gasoline engine is the idea that you can't depend on it. Perhaps a few years ago that was true, but if you supply the modern gasoline engine with gasoline and an electric spark you will get power just as surely as you will if you supply your steam plant with water and fire.

Supposing we find that a small boiler and a gasoline engine will save 50 per cent of our power cost, what will we do with our big boiler and engine, asks some manager. The same thing you would do with any other piece of machinery that is out of date and for which can be substituted something that would save money and labor. Sell it if you can, and if you can't, let it remain idle. It is more economical for it to stand idle than to run it if if costs you 50 per cent more than necessary.

The matter of power is a plain business proposition which each must work out for himself, but I want to get you to do more thinking about it.

The first gasoline engine I put in was a 2½ horse capacity. We attached it to the main line shaft and instead of keeping up steam until four or five o'clock in the afternoon just to run the ripener, we cooled with this little engine, and in that way alone saved 160 pounds of coal per day. Next we took off the cylinder from the steam pump and arranged a pump jack which is also operated from the line shaft by an eccentric pully. Here again we saved steam and fuel.

Many creameries cool their cream direct with ice immediately after it is received and many using starters cool with ice direct when the proper acidity is reached. By careful experiment we found that we could not get as satisfactory churn results with cream cooled with ice direct. It is almost impossible to properly emulsify the fat globules with a paddle, particularly so if the cream contains very much water. We could not churn as exhaustively with ice-cooled cream. We also found we could save 50 to 75 pounds of ice per day by circulating a strong salt and ice brine through the coils, to say nothing of the better churn results.

In these two features alone—cooling the cream and pumping water we are saving enough coal to pay for the engine in three months.

The little engine did such noble work that I decided to operate all my machinery with gasoline power, which consists of three 3,000 pound separators, one 900-pound churn, deep well pump, milk heater, starter can and cream ripener. In order to find the size engine we could use with the most satisfaction and economy, and to be in position to recommend the proper size, I have been experimenting with a 6-horse engine. At first thought you will say it won't even run the churn, but it not only run the churn but it run all the other machinery and did it all at one time. However, it required continuous explosions, which is neither economical in the amount of gasoline consumed or on the durability of the engine. It run the three separators alone satisfactorily and held them at a speed of 6,200 as uniformly as any steam engine could possibly do. It has been running the churn ever since we put it in until a few days ago. One has to be equipped to run all the machinery at once in case of emergency, so I would not recommend a 6-horse engine for a creamery operating separators. I am getting ready to put in a 10-horse engine and can recommend that size for a creamery running from three to five separators. If you only have one separator, the 6-horse engine will do the work satisfactorily and economically.

I can recommend a 6-horse engine for an ordinary cream plant. I think that size plenty large enough, and it will furnish an abundance of power at a minimum cost.

At the present time we are using our big boiler for heating purposes only, and by so doing we are reducing the amount of fuel consumed just as nearly 50 per cent as we can figure. The cost of operating the 6-horse engine on an average of six hours per day is 32 cents, figuring naptha at 8 cents per gallon. I have ordered a 10-horse upright boiler for heating purposes, and as soon as it is installed I will be able to give you figures that will be as small compared to the big boiler as I have given you figures for power cost. I feel confident that with a 10-horse engine and a 10-horse boiler I will reduce my power cost to not more than $15.00 per month.

The size boiler which is the most economical for a cream plant, of course, depends on the requirements. If you pasteurize your cream it will take a somewhat larger boiler, but if you do not, a 3-horse upright boiler will be plenty large enough to run your tester, heat your water and for cleaning purposes, and it will do it with a minimum amount of coal.

I have not considered the lubricating oil in either the steam or gasoline engine costs, but it is needless to say the gas engine will not require as much as the big steam engine. I believe, also, that year for year there will be a big saving in repairs. Grates for the small boiler are materially cheaper, there is no big fire box to keep in repair, fronts to replace and engine repairs are much cheaper and more easily and quickly secured.

We have used the gasoline engine long enough to convince me that it is entirely satisfactory power for all kinds of creamery work, and I have proved by practical demonstration that it will supply power for a creamery the size of the one at Dewar for not to exceed $10 per month. I have also proved that to use your big boiler for heating purposes only will cut your fuel bill in two.

Now, Mr. Manager, I have put up a proposition which should cause you to investigate your power plant. I have no gasoline engine to sell, and the information I have gained I hope will be of value to you. It is for you to decide whether or not you can save a neat sum for your company by putting into practice what your own judgment dictates rather than follow a pioneer custom which today is, in most cases, woefully extravagant.

As I said before, this can not be laid down as iron-clad. Some creameries who burn wood or have some other cheap fuel perhaps could not make a material saving by installing a gasoline engine, but if you are burning coal at from $3 to $6 per ton it will pay you to look into this proposition.

I have not mentioned that the gasoline engine allows the buttermakers in whole-milk plants an extra hour's sleep in the morning. Mr. Miller goes out to the creamery in the morning, starts his engine and gets up steam while doing the churning.

It is worthy of your careful investigation.

Mr. Stephenson: It is our privilege to have with us at this time one of our leading creamery authorities and a professor at the Wisconsin Dairy School at Madison. It is a pleasure to introduce Prof. Carl E. Lee, who will talk on "Moisture Content and the Butter-fat Standard."

MOISTURE CONTENT AND THE BUTTERFAT STANDARD.

Prof. Carl E. Lee, Madison, Wis.

It does me good this morning to meet with the buttermakers and dairymen of Iowa. It may be of interest to you to know that I have made between 4,000 and 5,000 pounds of butter within the borders of your state, and it was in your state that I gained my practical experience in buttermaking, and it was due to that work that I hold a position with the dairy school at Madison. I know that you have certain problems to contend with the same as we have in Wisconsin or Minnesota, and I am sure that there are a number of buttermakers here who would rather I would talk about the exhibit of butter at

Milwaukee. We just finished scoring that exhibit of 367 tubs. In going over that butter we found two or three tubs in one afternoon that we cut three points on account of defective body. Therefore I say it is time there was something done to stop buttermakers from overloading their butter with water. We also found several tubs heavily loaded with salt. We are in the business to make good butter, and unless we change our methods some day butter will be regulated the same as is the manufacture of oleomargarine. I do not think our moisture standard is too low. I believe that if it was raised to 18 per cent there would be just as many violations as there are today.

There are certain factors and changeable conditions that bear a relation to the composition of butter that must be understood by the creamery operator in order that butter with a uniform composition be made.

These factors must be handled by the Iowa buttermakers on the same basis as they are handled in Minnesota, Wisconsin or Illinois. If satisfactory results are not obtained, it is because the principles involved have not been properly observed.

The average composition of the butter manufactured in your state has approximately the same composition as the butter in the three states already referred to. This is further verified by referring to Bulletin No. 139, Illinois Experiment Station Table 3, which is a summary of Table 2, "Analysis of Butter Samples According to States."

	Illinois	Wisconsin	Minnesota	Iowa	Location unknown
Number of samples	65	103	131	109	15
Average % water	13.67	13.28	13.05	14.17	12.73
Highest % water	19.03	20.83	17.65	17.62	15.04
Lowest % water	11.22	9.88	6.40	10.80	11.21
Number of samples	65	103	131	109	15
Average % fat	83 04	83.49	83.78	82.91	84.23
Highest % fat	86.41	87.25	89.34	86.27	86.03
Lowest % fat	77.23	76.42	79.44	79.13	80.72
Number of samples	25	50	84	65	4
Average % salt	2.35	2.29	2.23	2.05	2.35
Highest % salt	4.46	4.23	3.82	3.79	2.97
Lowest % salt	0.80	1.39	0.52	0.82	1.43
Number of samples	25	50	84	65	4
Average casein and ash	0 88	0.96	0.86	0.88	0.94
Highest casein and ash	1.48	1.39	2.31	1.46	1.27
Lowest casein and ash	0.61	0.43	0.23	0.31	0.73

In that same bulletin it is also tabulated that some 76 per cent of the 574 samples analysed contained between 12 and 15 per cent of water and 31 per cent contained between 13 and 14 per cent. It is also tabulated that 3.73 per cent of the samples contained less than 80 per cent of fat, another 3.5 per cent contained less than 81 per cent fat and 62.83 per cent of the samples collected at regular intervals for a period of one year contained over 83 per cent of fat.

WATER IN BUTTER CAN BE CONTROLLED.

The buttermaker who knows his conditions can make butter with a uniform composition. Changes must be made with the seasonal changes and also of winter and summer conditions. One reason why there has been a great deal of rather high water butter on the markets for the past month is the heavy rains throughout the butter producing territory. Pastures have been revived and butter-fat must be handled the same as during the spring months. It does not seem possible that all the high-water butter is made intentionally but rather is due to the buttermaker assuming that his butter is safe, or if the test showed high he took a chance of it passing.

Men are employing methods which produce butter with a high water content and if they do not desire to change and make butter of normal composition the dairy industry will prosper without their labor.

Sometime ago in looking over a large number of method blanks I found that nearly one-third of the men were doing things that favored high moisture. If the creamery operators would go back to holding the cream at a low temperature, wash the butter during the summer months with water as it comes directly from the well and not resort to those things that tend to destroy the grain and have the butter still firm when packed, there will be no danger of high water.

It is surprising what men can do, and the Wisconsin boys that have followed the instructions set forth in the Dairy Department Scoring Exhibition articles and the personal letters will bear me out in this one thing. We have had less difficulty in instructing how to prevent high water than to increase the water content.

WHY A LIBERAL STANDARD?

Whther the standard be for water or fat, it should be sufficiently low to allow for natural variations due to sampling. A sample from a tub may show 15 per cent water and 82 per cent fat. while a second sample might show 14 for water and 83 for fat. This difference is due to the method of sampling and the butter not being of a uniform mixture.

In Illinois Experiment Station Bulletin No. 137 a series of 80 churnings were used, and samples were taken from four tubs packed from each churning. In nearly 50 per cent of the churnings the variation in the samples from the same butter varied less than .5 per cent, 36 per cent varied more than .5 and less than one per cent, while 14 per cent varied over one per cent.

The buttermaker who tests a churning of butter for moisture should take at least two different samples from the packed butter and if it is found that it exceeds 15 per cent several more tests should be made. Even after the buttermaker has his test made and the scale balanced at 15 per cent, another person could change the position of the dish on the scale and have a reading very close to 16 per cent. This variation will be due to the weight of the dish in both cases not resting on the center of the pan.

THE FAT STANDARD.

From the view point of the creamery industry, a fat standard will not simplify matters if one aims too close to the limit. The fault with the present water standard is not that it is not high enough to make it possible to manufacture legal butter. The same thing would happen with a water standard of even 18 per cent. As long as the buttermakers do not watch and study their conditions and keep from going too close to the line there will be work for the Internal Revenue Department. Only a short time ago a buttermaker's letter was published in one of the dairy papers, in this letter he gave the impression that the present water standard was too low. He stated that he worked the butter until the grain was destroyed and yet the water was high. That man admitted that he did not understand the main cause for high water, namely: destroying the grain or body.

Give me a young man that is willing to learn and follow instructions and in 10 days after he leaves the farm he can be trusted with the responsibility of making butter that is safe within the 16 per cent limit. The making of butter is not simply the running of the churn; the churn will work the butter in so many revolutions and the man can be told when the churn must be stopped. When it comes to studying the conditions of the cream, the locality where it was produced, knowing how to meet sudden change from dry to wet weather or how long the cream must be held cold in order to get results is where the man that understands buttermaking is needed.

The water content of the butter can be fixed before the cream enters the churn; it can also be changed by the temperature of the wash water or the amount of working. When the water content is fixed the fat content of that butter is regulated by the per cent of salt.

The present fat standard of Iowa (80 per cent) is the same from the view point of making a legal product as the 16 per cent water standard. With these two limits it leaves four per cent for the salt, casein, ash, etc., and it is all that is necessary in the making of a commercial product.

The only advantage of a fat standard (and it is one that is worth considering) is that it places all the creameries on the same basis. This can be said of the water standard. Butter-fat is what the creamery men pay for and it should be the basis on which the butter is sold. The first consideration in fixing the value of milk was butter-fat and not the solids not fat.

The fat standard has one other minor advantage—that of decreasing the per cent of salt in case the butter is made to contain a rather high water content. There is more butter made that contains over 82.5 per cent of fat than under that amount and if one understands the making of butter or has the object of quality in view, yes makes it as it was made 10 years ago, that is, where quality and butter with a perfect body is the object, 83 per cent fat is the divide.

A fat standard would give as much margin as the present water standard so as to make it possible for the man that is a little careless or does not understand all of the factors to be considered will make a product that is legal. The per cent of fat in butter is not the basis of quality neither is the water indicative of quality nor is it the basis on which the consumer buys the product. Flavor and aroma is that standard.

The creamery industry should not demand privileges in the making of their product that are not granted to the manufacturers of other food products. The interests of the producers, manufacturers and the consumers should be quality. Such a fat standard need not fall below 80 per cent.

BUTTERMAKER MAY KNOW THE FAT CONTENT OF HIS BUTTER.

Any of the moisture tests on the market will give satisfactory results providing the sampling, weighing and the operation of the test is carried out with utmost accuracy. Admitting that two samples of butter will vary, it is safe with the tests under 15 per cent.

If one desires to know the fat content of his butter, which would be necessary with a fat standard, the water and salt content can be determined and by adding one for casein to the sum of water and salt and deducting that from 100 the result will be the per cent of fat in the butter. In addition to this, butter can be tested by the Babcock method and the results will be as uniform as the testing of a 40 per cent sample of cream. When the sample of butter is prepared for weighing it has the same appearance as cream, aside from color, and when the tests are completed there is no difference. A third method of getting at the per cent of fat in the butter is that of knowing definitely the pounds of butter-fat put into the churn and by deducting the fat lost in the buttermilk, the balance of the fat must be in the butter.

The sample of cream that is taken will be a better representation than any sample of butter. If by this method one finds that the per cent of fat in the butter is between 75 or 80, which is the case when the overrun is high, or 85 to 90 per cent of fat when the overrun is low, it is evident that the cream was not correctly tested.

In an experiment of 80 churnings where four churnings represented a day's run, the average amount of fat handled each day was 892.71 pounds. Samples of butter were taken by means of a trier from each of four tubs or 16 tests for each day's make. According to the average fat content of these samples an average of 892.57 pounds of fat was recovered in the butter for the 20 days. The handling of all this cream or the making of 21,523 pounds of butter represents what can be done.

DISCUSSION.

Mr. Miller: How can a buttermaker get a 25 per cent overrun if he don't put in over 4 per cent salt, casein, etc., and 16 per cent water?

Prof. Lee: Nine out of ten today getting an overrun of 25 per cent are robbing the farmers.

Mr. Miller: If you don't get it you lose your job.

Prof. Lee: It is too bad that the creamery business has gotten into that condition. I once heard a representative of a centralizing concern telling the farmers that they were only getting a 16 per cent overrun, when I knew that that company would not have a buttermaker in their employ who could not get an overrun of 25 per cent. Before I got through with him he moved on.

Mr. Stephenson: What do you consider an honest and legitimate overrun?

Prof. Lee: When a creamery makes an overrun of 20 per cent it is getting all that is coming to it. Many of you will disagree with me on that. We all know that the easiest thing to do to regulate the overrun is to cut the farmers' test. Butter containing 83 per cent fat and yielding an overrun of 25 per cent, where does it come from? The farmers produce the butter-fat and they are entitled to the fat they produce, and if we have come to a point where a high overrun is demanded we ought to educate the farmer to the fact that it can't be done. I have come to the point, gentlemen, where if a buttermaker gets an overrun of 19 per cent I say he has done good work.

Mr. Thomas: I understood you to say that a buttermaker could not get an overrun of 20 per cent without cutting the test. I claim that he can.

Prof. Lee: You can't buy 100 pounds of butter-fat from the farmer without losing some of it. How much?

Mr. Thomas: Not necessarily any.

Prof. Lee: Let's put it down to 1 per cent. For every 100 pounds of fat you buy you make only 99 pounds of it into butter. Creameries pasteurizing lose from .6 to .8 of a pound. I know of buttermakers pasteurizing their cream who are losing from .5 to .8 of a pound in their buttermilk. If you have lost one you only have 99 pounds to start with. Therefore, if you are getting a 25 per cent overrun you must have less than 79 per cent fat in your butter. I want to say that if we have come to a point where the small creameries are going to make butter containing less than 80 per cent fat it is time a halt is called. I believe that the average fat content of Iowa butter today is 82 per cent. If you have lost one pound of fat, tell me how you can get even 22 per cent overrun. I am putting up to you a mechanical problem.

Mr. Thomas: Don't you consider butter containing 16 per cent moisture, 4 per cent salt and 1 per cent casein legitimate?

Prof. Lee: If we are going to continue to make that kind of butter we will soon have a harder proposition confronting us than anything we have today. Our American consumers will not stand for that kind of butter.

Member: Supposing one doesn't pasteurize?

Prof. Lee: If you don't pasteurize your cream you are entitled to 1 or 1½ per cent more overrun. When we talk of a 22 or 25 per cent overrun it is a question entirely of how much fat we are putting in our butter.

Member: What should the fat standard be?

Prof. Lee: The butter-fat standard should be liberal. I believe we should have a standard liberal enough so that the man who is a little careless will be safe. I don't believe that we ought to establish a criminal limit so high that it is impossible to always make butter within that standard. I believe that the average fat content of Iowa butter exceeds 82½ per cent. I collected Iowa butter for a period of one year and the average fat content was 82.9. This was in 1907 and 1908. I believe Iowa buttermakers have been trying to reduce that fat content, yet I feel safe in saying that the average fat content will exceed 82½ per cent. If butter was made in Iowa as it was ten or fifteen years ago, 75 per cent of it would contain over 83 per cent. Do you want to lower the fat content because we want to pay more money to the farmer? Or is it because you want to compete with the fellow who is not able to get that high overrun?

We have a fat standard of 82½ per cent in Wisconsin. As I already have said, that percentage of fat makes a good commercial butter. I am asked: "Can you tell the difference between butter containing 83 or 85 per cent fat and a butter with a lower fat percentage?" That isn't the question to consider. When I take butter home, Mrs. Lee doesn't look for the fat content. She looks for a butter with a clean, rich flavor. She does not want a butter with a flavor of cream held too long on the farm.

Member: What percentage of moisture do we have with an 81 per cent fat?

Prof. Lee: Sixteen per cent water corresponds with an 80 per cent fat standard. Butter should not contain over 1 per cent casein. That leaves 3 per cent salt. That is all that should be put in. I believe that commercial butter should contain close to 82 per cent fat, or between 82 per cent and 83 per cent.

Member: Do you believe in a double standard?

Prof. Lee: No. We want one standard, and I believe that standard ought to be a fat standard.

Member: From a manufacturers' standpoint, would a fat standard give us any advantage compared with a moisture standard?

Prof. Lee: No. The man today who has trouble with the water standard would have the same trouble with a fat standard. When we try to keep up with the other fellow we are on the wrong track.

Member: We Iowa buttermakers have to pass an examination in order to test. Mr. Lee has said that the moisture per cent varies in the taking of samples. Is it fair to have government inspectors take samples of our butter and condemn it without knowing that the sample taken was accurate? It isn't fair. Those fellows who take the samples which are used to prosecute ought to be made to pass an examination the same as we do.

Member: Would there be any difference in the per cent of moisture if the sample is taken out of the churn and a sample taken several days later?

Prof. Lee: Yes, there will be a difference of about 1 per cent on an average.

Mr. Stephenson: We have with us this afternoon a gentleman who needs no introduction to an audience of Iowa buttermakers and dairymen, a man in whom we all have a great deal of confidence. Mr. P. H. Kieffer.

Mr. Kieffer: It certainly affords me a great pleasure to have this honor of appearing before you this afternoon. I am more than pleased to see the number of buttermakers, the number of supply men, the number of transportation men and represntatives from the markets here in this audience staying with you to the finish. It shows the interest in you. I used to think we had a great association when I was secretary, but you have made a remarkable advance since then.

I have been asked by your secretary to presnt the medals to those who won in the butter exhibit. And right here I want to congratulate the secretary on having the pro rata money all ready to pay to those who had butter. He advises me that it will be paid before you leave.

I have a surprise in store for you, or, at least, I am surprised. This is the first time I have attended a meeting of this kind where the gathered cream creamery won the highest score. This fact ought to encourage the markets and you buttermakers in gathered cream creameries. The highest score was won by Watson Shick, of Monona, with a score of 98½.

The man receiving the second highest score is in the whole-milk class and is one of the diligent members of this association. He skips very few contests of this kind, and when you hear his name you will all agree with me that he is worthy and nobody will feel envious because he won. That man is G. Steussi, of Manchester.

These are the prettiest medals I have ever seen. Mr. Steussi, I have the honor to present you this medal in behalf of the Iowa State Dairy Association. I understand Mr. Shick is not present.

Mr. Stephenson: The hour is late and we will stand adjourned until this evening at 8 o'clock. The buttermakers' scoring contest will be held this afternoon at 2:30 o'clock.

Adjournment.

WEDNESDAY EVENING.

Mr. Shoemaker: We are especialy fortunate in connection with this convention to have been favored very liberally by the United States Department of Agriculture. Tonight we have two representatives of this department with us and we will now hear from Mr. Jeslin, who scored the butter at this convention. He will talk on "The Good and Bad Points of the Convention Butter."

THE GOOD AND BAD POINTS OF THE CONVENTION BUTTER.

J. C. Joslin, Chicago, Ill.

(Federal Butter Inspector with the Dairy Division of the U. S. Department of Agriculture.)

It is a pleasure to me to have this privilege of meeting and getting acquainted with Iowa buttermakers.

I have met quite a number of your inspectors and field men, and a few of your creamery operators, but have never before had the opportunity of coming into your state and inspecting your butter. I am, therefore, glad of having this privilege. I am glad that it has been my good fortune to be called upon to judge the butter at a time when the conditions have been so favorable for making good butter, for I assure you that a butter judge would rather see you all get high scores than low, and when the butter runs poor it is as disappointing to the judge as to the buttermakers.

I am supposed to speak on "The Good and Bad Points of the Butter Exhibt." I find upon averaging the scores on the exhibit that it is 94. Now this is surely a very fine average, especially as I feel that

I have been very careful in this scoring to place the scores as nearly right as it was possible to do, and have not padded them. The quality was there, and all it was necessary to do was to recognize it. I will speak of the bad points first, leaving the good for the last.

In the first place, I will speak of the appearance of the packages and tops as the butter is opened up for inspection. This is a very important matter, and you should make a special effort to have this perfect, so that the judge will approach the butter with a feeling that, judging from outward appearances, this butter should be fine. Now, how can one so prepare his tub? I would advise all to use ash tubs if possible to get them, for two reasons. First, the spruce tubs soil much more easily than the ash, and, second, there is much more danger of woody flavor in the butter. You should spend about five minutes with a piece of coarse sand paper in smoothing off the roughness from hoops, sides and cover. This is so easily done and adds much to the attractiveness of the exhibit. The tub should be thoroughly steamed and then carefully paraffined, having the tub hot, and parraffine about 200 degrees F. Apply the parraffine with a brush. If it is done in this manner there will be a very thin coating on the inside of the tub, and not thick scales, as was found on some of the tubs in this exhibit. Line the tub carefully, allowing the liner to lap over on top of the butter ¾ of an inch. After the butter is packed, cut the top off smoothly with a string, lap liner over on to the butter, add a cloth circle of correct size, dampen it and sprinkle a thin layer of salt over the surface; add a parchment circle, then the cover, using two or three tins to fasten, and the deed is done. The 20-pound tub should be packed inside a 60-pound tub, filling in between with papers, so that it may come through in the same condition as shipped. Some at this contest did not do this, and the tubs were poorly handled and presented a poor appearance. If the tubs and papers are thoroughly cooled before shipping, the butter is very apt to come through without heating. Some of the buttermakers failed to lap the liner over the top of the butter, and all the variations between.. It would be much better if this could all be uniform.

Now the workmanship. One would expect this to be near perfection in an exhibit like this, but although rather lenient on this pont, and passing those I thought would pass on the market without criticism still there were 20 marked defective in body, 30 off in color and two in salt. There were 44 exhibits scored off, therefore some of them were defective in both body and color. I have no doubt that some of these defects were due to your having a smaller churning than usual, and in the fear of overdoing it, have failed to work the butter enough to give it a firm waxy body and straight color. This is very important, and in this contest several of the high flavored tubs were kept out of the "shake down" and chance of winning just on account of waxy or mottled color. There seems to be a tendency to salt butter very high, no doubt with the idea of increasing the overrun, and in many cases to cover up something in the flavor. I hate to see this. and believe it will be a good thing for the industry, from the standpoint of quality, when we have a butter-fat standard, so that this over-loading will be done away with. There were only a few tubs here that were gritty in salt, which shows that the boys have been careful along this line. The butter that was poor in flavor was mainly so on account of old and stale cream, the flavor indicating poor care of cream before it has reached the creamery. This is something that must be overcome before our butter will be of a quality that it should be. There was considerable weedy and feed flavors in the butter, but these are not nearly as objectionable as the sour, cheesy and stale cream flavors.

Now a few words of praise for the good points. There were only 22 tubs scoring 90 and below, and as butter scoring above 90 is considered good table butter, and when you consider that the average score of all this butter is 94, you can understand that it is a very fine lot of butter, and, barring deterioration, I am sure you will find it so when you look it over. The most of it was good commercial butter, butter such as the dealers are anxious to get and such as will go through to the consumer without a complaint. And there were about 20 tubs of the finer quality that were rich, sweet and clean in flavor, fine aroma, fine in workmanship and appearance—in fact, nearly perfect butter that it is a pleasure and a privilege to judge. Conditions have been ideal for the making of good butter, new grass and cool weather. I am glad that such has been the case, and this, coupled with the skill of the Iowa buttermakers has resulted in a fine exhibit of butter.

As I said at first, this is my first opportunity of judging Iowa butter, in Iowa, and I am frank to say that I found a better lot than I had expected, and I will say further, that if you boys send such butter as this to the International Dairy Show and the National Creamery Buttermakers' Association convention, the other states will have to look well to their laurels, or Iowa will win the prize cup and the prize banner. I thank you.

The President: Our government never does things by halves; it never employs poor men and it never sends out poor men. We are favored tonight with S. C. Thompson, in charge of the Dairy Manufacturing Investigations which are being done by the U. S. Dairy Division, and I take pleasure in introducing him to you.

ADDRESS.

S. C. Thompson, Washington, D. C.

(In charge of Butter Manufacturing Investigations Dairy Division, U. S. Department of Agriculture.)

Those of you who had the pleasure of hearing your president address this meeting this morning, heard him condemn the dual-purpose cow. I don't know how you are going to consider me. I am of the beef type but am working for the dairy interests.

I want to say that I am very glad of having this opportunity to meet the dairymen and buttermakers of Iowa. I was born in the east and raised under eastern conditions and my experiences along dairy lines were gained there, but since I have been old enough to remember I have been told that the west was making more rapid strides along dairy and agricultural lines than the east.

When I first began to look around for myself, the state of Iowa attracted my attention and the amount of dairying struck me most forcibly. I wondered why the state of Iowa was noted for its butter manufacturing and I came to the conclusion, as I have studied your conditions and become more familiar with them, that your college of agriculture, your dairy and food department and your dairy associations have been factors—the forces that have driven you into a position that certainly the other states of the Union are envious of.

The amount of dairy manufacturing, particularly by your creameries has been one of great interest to me. While the number of creameries has not increased, and in fact they have diminished, during the last few years, yet the amount of production has steadily increased. This shows to me that by consistent effort, you have been able to forge ahead and I see no reason why you are not in position to hold your own and to succeed even better in the future. You have accomplished a great many things, and you have many more yet to accomplish, but I think you have the foundation laid now for the greaest success.

So far as your creamery operations are concerned, I am satisfied that you are making rapid improvement. I am sure that the business management of your creameries is growing better each year. I mean by that that you are keeping better records of your daily operations; that you know more completely what becomes of the butter-fat, and, if I may be allowed to say it, that you are getting a better overrun. My position on the overrun question is this. That every creamery operator ought to be able to secure a reasonable and uniform overrun every day, and by doing that he can pretty well know that the work in his creamery is being done properly. If not, he lacks additional assurance that his testing is being done properly, that his moisture is correct, or that his losses are not excessive. In fact, he does not have a double check on his operations unless he is able to get a reasonable overrun. Prof. Lee cautioned you and perhaps criticised you about getting from 20 to 25 per cent overrun. I don't advise any creameryman to attempt to get more than 21 per cent overrun, but I will ask you why you are not getting more than 16 or 17 per cent when it is possible for you to get 20 or 21 per cent with justice to all? You as creamery operators ought to consider this. I would not urge anyone to load their butter with moisture or salt, and I believe that the moisture question is one that, at the present time, needs serious consideration by creamery operators. I believe if we are going to do the best work—the only way for us to do—we must know each day the complete analysis of our butter so far as we are able to determine it with the tests we have at hand. I have said that Iowa creameries have made, and are making, rapid improvement and I want to congratulate you on that success.

What I had in mind to say tonight is the story that has been told a great many times; it is being told at almost every convention and is no doubt tiresome to many. That story is the story of quality. It seems to me that if there is any one thing that the creameries in Iowa and other states need to realize more than they realize now, it is the necessity of getting better quality and how it is going to be secured. You know when the whole-milk creameries were flourishing that the buttermaker with proper training didn't have much difficulty in getting a fine grade of butter. The hand separator came and as a result quality has deteriorated. Yet I feel that buttermakers and creamery proprietors have made a serious mistake in spending as much energy as they have in trying to have their patrons understand that the hand separator was a damage to the business. If they had spent that same time and energy in trying to show the farmer how to take proper care of hand separaor cream from the time of skimming until time for delivery we would have been further ahead than we are at the present time. We didn't know just what we were coming to but, as matters have turned out, it was proper that we should be alarmed. But we have the condition to cope with now. We have the hand separator pretty generally and now it is up to us to devise some means to meet that condition and to improve our quality.

You have heard Mr. Joslin speak this evening and I presume you all know what his duties are on the Chicago market. They are to examine shipments of butter when requested by creameries and report the defects found to the creameries with suggestions for overcoming them. From the number or requests for inspections we have had it seems to us that the work is being appreciated, as the number of inspections have practically doubled during the last fiscal year. By analyzing these market inspector's reports, we get many startling facts, and some of these facts I want to present to you at this time.

During the year ending April 30, 1911, there were 838 shipments of Iowa butter inspected on the New York and Chicago markets. The total amount of butter included in these shipments was 1,369,000 pounds. Out of that 838 shipments but 42, or 5 per cent, scored 90 points or more, while 95 per cent scored below 90. If we were to determine the losses sustained by the creameries making that butter on a basis of New York extras, we would have $27,000, or practically 2c per pound. You understand that I have based that loss on extras in New York and extra firsts in Chicago. If it had been figured on a 3c premium basis, which price some of the best creameries are selling for, then the loss on this butter would have amounted to $67,500. The amount of butter inspected was approximately 1 per cent of the output for the state and if the loss had been sustained on the entire product, it would have amounted to over $6,000,000. The losses were actually sustained by certain creameries which, according to our records, comprises over half of those in the state or 292 different plants.

This brings to us forcibly the need of some improvement in our quality. It seems to me that your state has lost too much money in that way. Iowa is not, however, the only state that is sustaining those losses. The other large producing states show a similar loss practically as great.

These reports show more facts that will be interesting. Sixty-two per cent of all those inspections for Iowa showed poor workmanship, which means either that the buttermakers were not properly trained—that they were not doing as well as they knew how, or else they didn't have proper equipment to handle the cream. Thirteen and five-tenths per cent showed mottles and 38.3 showed overworked and greasy body. I believe that the enterprise of the Iowa creameries is great enough to provide sufficient help and proper equipment and to require every buttermaker to be capable of overcoming all manufacturing difficulties. Here seems to be a field for some work which we have been inclined to overlook. The greatest defect, however, in the quality of butter was caused by poor cream, as over 82 per cent of all these shipments showed poor cream flavors.

I haven't mentioned these facts to you for the purpose of criticising. I simply mention them so we can realize that we have a condition and not a theory which must be met. I believe there is but one way to do this satisfactorily, and that is by grading cream and paying for quality. So long as the patrons of a creamery are permitted to bring their poor cream and receive the same price that is paid for good cream, there is no incentive to improve methods. In fact, there is a tendency for the man bringing the good cream to lower his quality. It is only human nature for us to become lax under such conditions and we simply let go some of the little things that perhaps have not taken much time. If we will grade cream and pay for quality that condition will be changed, and in no other way can it be so well done. Let us consider for a moment. If we have a patron bringing cream of fine enough quality to be made into butter that will bring that 3c premium and we have another bringing cream that will only make a second or third, and it all goes together and makes butter that scores, say 90, the creamery is very often well enough satisfied with the results, but how about the patrons furnishing good cream. Suppose we were to grade that cream and make a dividing line. Suppose we would pay 1½c above for good cream and 1½c below for poor cream. That would mean that the patrons delivering good cream receive 3c more than the poor cream patron. The patron bringing good cream would still be receiving 1c less than his butter if churned alone would bring, while the poor patron would be receiving 1c more than his butter would be worth—but a far more equitable basis than paying for all alike.

These facts, if we will follow them out far enough, will show to us that the only way we can be just with ourselves and with our patrons is to divide the quality at the proper point. I can't say just where that is, but each buttermaker can determine for himself. I do believe when you establish this system of grading, that it can generally be worked out successfully. I had a good opportunity of seeing and helping to work out a similar condition to this. Let me say to you that in four years after the creameries in a certain state adopted the grading system and paid 3c more for good cream, they succeeded in improving the quality so that 95 per cent of all the cream delivered to the creameries was sweet enough to be pasteurized and sold as sweet cream.

I would like for you to consider what has been done; consider the advantages of this proposition and decide for yourself if the grading proposition is not the only one that will tend to uplift the quality. Patrons very often say "How can this be accomplished? How can I bring 95 per cent sweet cream?" The delivery is an important factor, and it may be that every-day delivery would be necessary at first. In the state I mention, however, it was accomplished by the free and liberal use of ice.

The harvesting of ice and its general use with milk is not as difficult as a great many creamery patrons believe. I am going to take up the ice proposition briefly and give you some simple hints on harvesting ice. People in the extreme northern states have told me that is was impossible for them to get a supply of ice, and I presume many in Iowa feel that way, but I am sure it is far less difficult than it seems. If there is a stream within a reasonable hauling distance, that means a source of supply which can't be better. There may be a creek that can be dug out cheaply and easily. It doesn't take a very big pond to harvest enough ice for a herd of 20 cows. If no other means are at hand a depression in the land can be scraped out and the fall rains depended on to fill it and give a supply. In either event, neighbors can co-operate in providing an ice supply that will be inexpensive, satisfactory and near enough at hand to make the cost of harvesting ice of small consideration. The time is coming when the state of Iowa will have ice houses on the farms of practically all of its dairymen. It is really amazing to note the small expense that is attached to having a supply of ice, an ice pond and an ice house. In the state that I have mentioned, the first people to store ice didn't build a house that cost from $125 to $200. Many used an outbuilding that they already had. Maybe they partitioned off part of some shed. They provided good drainage and good ventilation and put in enough ice to carry them through the summer, with the result that their cream was delivered to the creamery often than three times in summer and two times in winter in sweet enough condition to be pasteurized and sold for sweet cream.

If you want to build an ice house, there are several cheap methods. The setting up of piles with plain boarding and plain roof is one of them. Give attention to the drainage and ventilation and you can have a building that will keep your ice without an excessive amount of waste. The amount of ice that is necessary for a herd of twenty cows is not large. We have found that 500 pounds of ice will cool the cream from one cow for a year—that is during the summer months. To that I would always advise adding 500 pounds more to provide for the waste and for household uses. That means 1,000 pounds per cow on a basis of a twenty-cow dairy, or ten tons for twenty cows. I want to say that the cost of harvesting that ice need not exceed $1 per ton, and if you cut it yourself you won't have to pay out more than 35c or 50c per ton. If you store ten tons of ice costing $10, and it is possible to increase the revenue 5c per pound on an average production of 150 pounds per year, you would increase the revenue per cow $7.50, or for twenty cows, $150—with an outlay of $10.

What I have said along this line has been worked out and it can be worked out I believe here. I want to submit for your consideration, if that is not the easiest and best way we can accomplish the results we are after.

I am so thoroughly convinced myself of the possibilities along this line that I would not have felt that I had done my duty if I hadn't outlined this plan briefly. I know how a good many of you feel; that it may work out in some places, but it won't work out here. But I believe it will. If you want to call upon us at any time, you will find our department ready to assist you. I thank you.

Mr. Shoemaker: I know every member of this association will learn with regret that Prof. Mortensen is very seriously ill, having been operated upon for appendicitis. He was to have been with us tonight. He has sent his paper and I will ask Mr. Ross to read it.

ICE CREAM MAKING AND ITS RELATION TO THE CREAMERY.

PROF. M. MORTENSON, AMES, IOWA.

About fifteen years ago it was generally considered that the ice cream business was more suitable for the peanut stand than for the creamery, but the industry has rapidly advanced until we, today, in the state of Iowa are manufacturing not less than 3,000,000 gallons of ice cream annually. If each gallon of ice cream contains nine-tenths of a pound of butterfat, then 2,700,000 pounds of butterfat, or 1.23% of the total amount of butterfat produced by our Iowa cows, is converted into ice cream.

Is it possible that this industry will develop to any greater extent? The production of 3,000,000 gallons of ice cream in our state means that twice a month each man, woman and child in the state of Iowa will have a dish of ice cream. There are some people that will average a dish daily; some perhaps even more. There must be some who are not receiving their full proportion. Who are these people? Are they the people of the cities? Are they the people of the smaller towns? Are they the college students? No, they are the farmers, their wives and children. They constitute the wealthiest class of people in our state. They are the people who supply the food for the people of our state; not only for the people of our state, but for those of other states and of foreign countries. They are the people who are furnishing the ice cream for the city people. Yet it seems as if they, themselves, are deprived of that which ought to be the most delicate dish that is served on any man's table. Is the reason therefor that the farmer cannot afford to buy it? No. Is the reason therefor that he does not care for ice cream? No. The reason is that the ice cream sign does not glare in his eyes wherever he goes, and the ice cream parlor with all its temptations is absent.

At the annual ice cream makers convention two years ago I made the remark that we would soon reach the people of the rural districts with ice cream wagons from towns and cities and perhaps from the country creamery. We had at that time at the college creamery successfully sold ice cream from the wagons collecting cream from the farmers. We now read on page 33 of the September issue of the Ice Cream Trade Journal that an ice cream factory of Portsmouth, Ohio, has successfully operated routes from Portsmouth selling ice cream to the people of the rural districts. This is merely a beginning, but they have been successful in their efforts and it will naturally result in that more ice cream manufacturers will follow. If the rural districts of our state are taken proper care of it means that our annual output of ice cream will double, that it will represent to value of about 4.8 million dollars, being about 8.1% of the value of the 219,800,000 lbs. of butterfat produced annually in the state of Iowa, figuring the value of the butterfat at 27c per pound; but the amount of fat used represents only 2.46% of the total amount produced.

Let us consider the value of a pound of butterfat which is used in the manufacture of ice cream. We will take for granted that an ice cream manufactured from a 20% cream and containing no ingredients except those of very highest quality will readily wholesale at 80c per gallon. The cost of producing ten gallons of ice cream, not including the cost of cream, is as follows:

8 lbs. sugar @ 6c	.48
4 oz. vanilla	.30
4 oz. gelatin	.12
Ice and salt	.75
Labor	1.00
	$2.65
Selling price	8.00
Value of 9 lbs. fat for ice cream	$5.35
Value of 1 lb. fat for ice cream	.594
Value of 1 lb. fat for butter	.27
Difference in favor of ice cream	.324 per lb.
Value of 2,700,000 lbs. of fat used annually in Iowa for ice cream	$ 1,603,800
Value of same amount fat for butter at 27c	729,800
In favor of ice cream making	874,000
The total value of the butter-fat produced annually in the state of Iowa estimated at 27c per lb.	59,346,000
The value of same if made into ice cream	130,561,200
Difference in favor of ice cream	$ 71,215,200

From this it is apparent that there is a financial gain in making ice cream. Considering we have an ice cream factory in connection with our local creamery we have the advantage that we have no express charges to pay. The express charges on a five gallons packer of ice cream is:

From one to ten miles	$.40
From 11 to 20 miles	.45
From 21 to 40 miles	.50
From 41 to 60 miles	.60
From 61 to 80 miles	.75
From 81 to 100 miles	.90
Return charges	.15

Leaving the financial aspect of the ice cream industry we will consider the ice cream department as an educator both to the producer and to the manufacturer.

The ice cream maker demands sweet cream. No high class product can be made from a cream which is in the least inferior in quality. In order to obtain sweet cream for ice cream making purposes it is necessary that the creamery manager does a certain amount of educational work among his farmers and by so doing he will discover that it is not so impossible to improve the quality as was first thought. The Algona experiment conducted by the dairy division of the department of agriculture proved that as soon as the campaign for sweet cream started, the result was that all of the cream improved in quality and that about 90% of the cream was delivered sweet, whereas less than 10% was delivered sweet a year ago. It is natural that in order to accomplish this it is necessary to make a difference in price between sweet and sour cream. We say we are paying a premium for the sweet cream, but the fact is that the producer is paying a fine for delivering sour cream, and it is proper that he should, for it was never intended that cream, to be used for human food, should be left to deteriorate in order to suit the convenience of the producer.

The ice cream maker must give his cream the proper care. As soon as it is received it has to be pasteurized and cooled immediately, and it must be done right. The ice cream maker who makes good must be careful, painstaking, conscientious, prompt and quick. The same qualifications are required of an up-to-date buttermaker, but these lessons will be taught more readily in the ice cream factory.

Care of equipment and supplies means much to the ice cream manufacturer because it is in the ice cream factory more subject to deterioration. There is a good lesson for some of us buttermakers.

To keep in close touch with the consumers of our products, to learn through them the real defects of our goods, brings us all a most valuable kind of education. As a buttermaker we are at times apt to think that our product is all right and that the fault is with the man at the other end of the line. The ice cream maker can go to the consumer and be convinced that by selling part of his products to the home people or to the people of his neighboring towns he becomes a stronger man. He learns to get along with his fellowmen, becomes what we call a better mixer.

An ice cream maker is forced to adopt some kind of bookkeeping system, and if such was adopted in the ice cream department, a similar system would, without doubt, soon be introduced in the butter department.

Some will ask, "Is it wise for all creameries to make ice cream?" We consider it safe for a creamery to install sufficient ice cream equipment if they are assured of being able to dispose of twenty gallons daily during the five months, May, June, July, August and September. Due consideration should be given to nearby competition, to shipping facilities, and to cheapness of ice. There should be plenty of room available, and the buttermaker should have time to devote to overseeing the ice cream department without neglecting any of his regular duties. We should not depend on that we could make ice cream with the same amount of help as we had before. If we decide to install ice cream equipment let us also decide to give the buttermaker an additional helper.

We should discourage the addition of an ice cream department in a place where the buttermaker is not in favor of ice cream making. The same is true if the manager and directors lack business ability along the line of salesmanship, collection of accounts, bookkeeping, etc. The creamery directors are appointed by the patrons of a creamery and are given full authority to dispose of the dairy products handled by their institution the way they deem best. The directors are held responsible by the patrons. Therefore a conscientious creamery director should thoroughly investigate and study all possibilities for disposing of the product at the highest price. If he can return most money to the patrons by making butter, then make butter exclusively. If he finds that he can make more money by making ice cream, or selling cream for ice cream, then it is his duty to convert as much as possible of the product in that direction. To the producer it is not a matter of sentiment, it is a matter of who pays the most money.

Mr. Shoemaker: We will now stand adjourned until tomorrow morning.

Adjournment.

THURSDAY MORNING.

The President: We will open our meeting this morning by an address by L. P. Anderson, of Algona, who is a thoroughly practical man, and I know he will have much to say to us that will be of interest and value to all.

DAILY TESTING OF CREAM.

L. P. Anderson, Algona, Iowa.

Testing cream every day, or at each time of delivery to the creamery, has been given to me as a subject for this morning's program. It is with some reluctance that we attempt the discussion of this subject. It is in my estimation the keynote for better and more successful creamery management. The fundamental principles seem to me to be so strong in its favor that it is hardly necessary to argue in its favor.

Testing every day has been discussed pro and con through all the dairy papers and what the speaker has to say on the subject may not be new to the buttermakers and creamery men present. At the same time we would like to have your undivided attention for a few moments. At the conclusion of this paper you will be given an opportunity to one and all express your views as the subject may appeal to you.

The creamery that does not test every day must take composite samples. The testing is then done every two weeks or once a month—a practice which we think is wrong and not in the least correct. It is the way the composite sample is taken and handled that is wrong. Theoretically it is right. The method of handling is the point we wish to lay considerable stress on in this argument.

In Iowa very few buttermakers are testing every day. Most of them take composite samples. Why are they taking composite samples? In the first place, most of them have so much work they do not have time to do the testing every day. They could not if they wanted to. In the second place, the average farmers creamery deems it a very wise plan to be economical with the labor question. If the buttermaker can possibly take in the cream, make the butter, and get through with his day's labor at any reasonable hour of the night, he is compelled to do so alone. In a majority of such cases the buttermaker does not have the time to attend to some of the little matters, such as testing his cream for acidity, testing the buttermilk, testing the butter for moisture, weighing the butter before shipping, and the keeping of a set of daily records.

No, some of the farmers cannot see the necessity of doing those little things when they are really some of the most essential things for successful creamery management. As a result they will not hire any extra help and the buttermaker cannot do it all alone and test every day.

In the third place, a great many of the buttermakers do not want to test every day, for they think it is too much trouble. Not many years ago most all the creameries received all whole-milk. When the hand separator came they changed from whole-mlk to cream from the hand separator, but they did not change the system of taking the samples. The composite jar remained on the shelf just the same, and it is hard for those buttermakers to do anything different. They like to stay in the same old rut.

Now listen—we must admit there is a vast difference between the per cent of butterfat in one hundred pounds of cream than there is in one hundred pounds of milk. In many cases the way the whole-milk sample is taken is wrong. Why then must not the composite sampling of cream be decidedly wrong? Composite samples, whether milk or cream, to be correct, must be taken in the right proportion or aliquot portions of the amount the patron delivers. When the samples are taken in aliquot portions and kept in jars with glass stoppers. or jars sealed with cork so there will be no evaporation, and kept in a cool place away from the rays of the sun in the hot months and in the cold days kept where they will not freeze, the composite sampling may be fairly correct. How many do those things all the time? Now, unless these precautions are taken, how can the sample represent the average richness of the various lots of cream from which samples are taken?

You will be much surprised, if you test every day, at the variations to be found in the patron's cream at different deliveries. There are variations in the richness from day to day, and as a result the amount of cream will vary. One day he will have more pounds of cream with a lower test than he did the day before with less cream. Many factors enter into the variations in the amount of cream and in the test which the farmer does not always have control of and as a result he has richer cream one day than another. Now, unless the buttermaker takes the sample in the correct proportion for these variations in the richness and amount at each delivery, how can he have a correct composite sample?

We will now discuss the dipper sample. As an illustration we will say Mr. Jones makes two separate deliveries of cream to our creamery and we take two samples for testing at each time, one for every day testing, and one for the composite. Today he delivers 200 pounds of cream testing 20% which makes 40 pounds of butterfat. Tomorrow he brings 100 pounds testing 40% which makes 40 pounds of butterfat. Testing this for every day work he has actually delivered 80 pounds of butterfat. Now we test the composite sample and find the average test is 30%. He has delivered 300 pounds of cream and with the 30% test he would be paid for 90 pounds of butterfat, or the creamery would have to pay for a loss of 10 pounds of butterfat. You may reverse the illustration, and suppose that Mr. Jones delivered 100 pounds of cream testing 20% making 20 pounds of butterfat. The next day he delivers 200 pounds of cream testing 40% making 80 pounds of butterfat. In all he has 100 pounds of butterfat. We will now test the composite sample and find the average test to be 30%, the same as in the preceding example, and he has delivered the same amount of cream, 300 pounds. Thirty times 300 makes 90 pounds of butterfat the creamery has to pay for. In this case the creamery wins and the patron loses 10 pounds of butterfat. If the patron only knew he was losing what a "howl would go up from Denmark." Now, on the other hand, it is all right with him when the loss comes on the creamery.

This example may be somewhat overdrawn in the differences we make in the tests from day to day, but they are possible The variations found from day to day though smaller mean just the same and have the same evil effects. and show the results which are had by the dipper method. The man who takes the sample with the dipper takes the amount each day through force of habit whether there is a small amount or a large amount of cream, this we all know to be true, and he does not get the correct portion. This method of taking the samples and paying for the butterfat on the basis of these composite samples cannot be too strongly condemned.

We have not taken into consideration creameries that have cream routes. Where the hauler weighs the cream and takes the sample, and this sample is made a composite sample and then tested every two weeks, tell me, please, what kind of a sample have we here? There is nothing correct about it. It is a violation of the fundamental principles of good creamery management.

The shortage of butterfat in this latter case would make the buttermaker's hair turn gray to find the overrun. Yes, but you say we are co-operative. You must remember it is all paid out just the same. What is the difference if it is not equally divided and we do not get the overrun? We get all the money. The answer should be a display of ignorance on the part of the creamery management.

Another factor that is detrimental to composite samples is the escape of moisture from the sample jars. These jars in most cases do not close tight enough at the top to prevent air from getting in. In this case the per cent of evaporation is greater than you imagine. Experiments have shown that we can easily account for from one to three per cent high reading in this way. One per cent high reading will cut the overrun on an average of three per cent. Tell me, how is a buttermaker to get his standard in overrun?

In the May 15th issue of the Creamery Journal, Mr. Winkjer, dairy commissioner of Minnesota, says: "So many slipshod methods are used. Poor records are kept by the buttermakers and in many cases no records at all. It is nothing uncommon to have butter with an analysis of 15.2 per cent moisture, 3.5 per cent salt and 1.3 per cent other matter. Theoretically this should give a 25 per cent overrun, yet we consider it good work if we have 20 per cent. Records from many places show an average way below 20 per cent."

A buttermaker should know every day what he is doing. He should know how many pounds of butterfat he receives each day. Where the every day test is practiced this is a very easy matter because the testing is done before the cream is ready to churn and he knows just how many pounds of butterfat there is in the ripener. He can estimate how much butter should be churned the next morning and tell how much salt to use, etc.

The buttermaker should know the loss of fat in the buttermilk, the per cent of moisure in the butter, and he should keep a complete set of daily records. These will show him from day to day just what he is doing. He will know where his overrun is and if it is low one day he can remedy it the next churning. Now, when the testing is done every two weeks, the buttermaker has to wait five or six weeks before he knows what the result is. He takes in the cream, makes the butter, and sends it to the market, and the markets tell him how many pounds of butter he makes in a year. If luck is against him and his overrun is low, what kind of an explanation can he make to the creamery board? None, because he does not know what he has done himself.

The creamery business is increasing and broadening every day, and with the keen and sharp competition it is our duty to look after the leaks. This can best be accomplished by more up-to-date methods and thus keeping in pace with the line of progress.

Many creameries have not changed their methods of doing business in twenty years. It is the same old grind day after day, year after year. They take composite samples because they used to ten years ago. In many cases what was the thing to do ten or more years ago will not work today. It is necessary for a banking house to know what they are doing each and every day If so—is the banking any more important a business than your creamery business?

In conclusion we wish to say that we think one of the most important points in favor of the every day testing and one that we have not mentioned, is the satisfied patron. In our work with the Algona creamery since we have tested every day, and it is almost a year now, we have not had a kick in regard to the test by a patron. How many creameries that do not test every day can say as much? When the patrons come to the creamery they ask what the test was the preceding day and if it is low they go home and turn the separator faster or they turn up the cream screw. We were—in about a month's time—able to increase the average test of the cream received from 22 per cent to 27 per cent butterfat by simply telling each patron what his cream tested and suggesting how he might improve the test.

Now, fellow buttermakers and creamerymen we have very briefly touched on this interesting subject in regard to the advantages of every day testing. and with this outline for discussion we will turn the floor over to you for a general discussion with the privilege of asking us questions. I thank you.

DISCUSSION.

Member: I have 320 patrons delivering their cream. How much help will it take to test every day?

Mr. Anderson: One man could do the testing. I have seventy-five patrons. I have weighed in all the cream and attended to the rest of the work and had my testing done by noon.

Member: Where you have 320 patrons you would have to have an extra man.

Mr. Anderson: When you have 320 or 400 patrons your cream is only coming in two or three days a week. You don't get them all in one day.

Member: Supposing one man can't test them all and it would require an extra man. Where would you get the pay for him?

Mr. Anderson: With 320 patrons you would save enough to pay for him.

Mr. Capper: We have 350 patrons and this summer we have been doing daily testing, besides taking care of fifty hogs.

Member: You said you didn't think very many were testing every day. Isn't the majority doing daily testing?

Mr. Anderson: I am afraid not. One thing in favor of daily testing is the fact that the buttermaker knows every day how much overrun he is getting.

Member: It seems to me that these gentlemen are going off to one side. The only point I see in daily testing is in giving every man just what is coming to him. I don't think it makes any difference in the price you can pay.

Member: Ask any of your patrons whether he would rather his cream would be tested while it is sweet and clean or at the end of fifteen days when it was sour and dirty. If you test once or twice a month your sample is liable to mould on you.

Mr. Thomas: We have a creamery with 280 patrons and we test only once a month, but we never have any mouldy samples. We used to have but not any more. I believe you can take samples from day to day and keep them in perfect condition. The question is, are you getting fair samples? I believe that is the greatest drawback. The extra expense would amount to $40 per month if we tested every day. If you sterilize your bottles you won't have any trouble with mould.

Mr. Trimble: How do you know what your overrun is?

Mr. Thomas: We take samples two or three times a week from the vat and find it in that way.

Mr. Odell: Experiments in daily and composite testing have been made at the colleges and there is a variation of between 1 and 2 per cent if taken every fifteen days and nearly 3 per cent when taken every thirty days. Now if you have such a wide variation as this how are you going to get your overrun? I was talking to a buttermaker the other day who said he had been testing every day but had to go back to the composite method because he couldn't do the work. I asked him how his overrun was when testing daily. He said all right. I asked him how it was when taking composite samples. He said he made it all right. Unless you use glass-stoppered jars and take a proportionate sample the variation will make it impossible for the creameries to get their overrun.

Member: I have been testing every day for the past four years and we have all the way from 100 to 300 patrons. Along last June we had close to 400. There were two of us on the inside. We got through separating about 9:30 or 10 o'clock and between 11 and 12 we were all through testing. If a buttermaker has no more than 300 patrons, which is equal to about eighty each day, he don't have to have a second man on account of the testing. If you have a patron who kicks about his test you can tell him each time what his last delivery tested. If you only test once a month you can't tell him until the month is up. You can keep your patrons better satisfied if you are testing every day.

Mr. Anderson: I had an experience along that same line. One patron's cream had been testing around 28 and 30 per cent. One day I noticed the cream was thin and the next day the patron came in. He asked what his test was and I told him 16 per cent. He smiled and said he didn't think he would say anything but he said he accidentally got water in his cream. What kind of a composite test would he have gotten with that water in it.

The President: You have all heard about the North Iowa Dairy Improvement Association, from the newspapers, from the traveling men and others who have had occasion to visit that territory, but we have the North Iowa dairy expert with us and he will give us the information from first hand.

THE NORTH IOWA DAIRY IMPROVEMENT ASSOCIATION

G. W. Patterson, Lake Mills, Iowa.

In discussing the subject of "The North Iowa Dairy Improvement Association," I will first mention some of the objects of this organization and then tell you what has been done and explain some of the plans for the future.

It was originally intended that these nine creameries co-operate in selling butter. They were to pasteurize at the same temperature, use the same kind of starter, color the butter the same shade of yellow, incorporate the same percentage of salt and use similar tubs. This would give them a uniform product. It would establish a reputation for the community's product on the market.

Another object of the association was to employ a dairy expert who was to aid in this movement for an improvement in quality and an increase in quantity. The association has now been active for a little more than a year. They have not accomplished all they intended to do yet, but they have made progress. During the past season their dairy expert, in co-operation with men from the state dairy and food department and the U. S. department of agriculture, has scored cream at the different creameries. The cream was criticized from the standpoint of flavors, sourness, test and condition of can. The score cards were given to the patron immediately after the cream was delivered. On the back of these score cards were printed some dairy rules and suggestions. This plan has served to agitate the subject of clean, sweet cream in a very effective manner. We have noticed that because of it many old, rusty and jammed cans have been replaced by new ones. The test has raised and the general quality of the cream has been improved.

I do not have any data which will show the effect upon the price received, but the buttermakers are all of the opinion that this cream scoring does a great deal of good, especially when they follow it up. It also gives the buttermakers a backing in handling some of the poor patrons.

The buttermakers have shown themselves to be highly interested in this work and have helped a great deal. They are at the present time planning a meeting at Northwood October 21st for the purpose of organizing. They intend to meet each other, get acquainted and promote co-operation instead of competition. Hereafter patrons with poor cream will not be able to impose on a creamery because of rivalry between neighboring factories.

Considerable has been done to improve the methods of dairying on the farms. Last winter the dairy expert along with Prof. Hugh G. Van Pelt, Mr. Estel and others held dairy meetings at the school houses. For the most part they were held in the evening. Subjects such as feeding, testing, dairy sires, dairy barns, raising calves and diseases of cattle were discussed. Some 44 of these meetings were held last winter, and the attendance ranged from 15 to 75.

Through the efforts of the dairy expert, every patron of these creameries (there are over 1,100) has received much good dairy and farm literature. Some of the bulletins distributed treated the subjects of "Milk Fever," "Managing a Dairy Herd," "Tuberculosis," "Sanitary Milk Production," "Abortion," Bacteria in Milk," "Extermination of Quack Grass," and "Canada Thistles," Each patron also received one year's subscription to Kimball's Dairy Farmer.

Ending with July, dairy herd contests were carried on for one year. Upwards of $1,600 worth of prizes were offered for the highest averaging herds. The cows were checked over four times during the year. Every three months the names of the patrons (arranged alphabetically) with the average number of cows, the total amount of butterfat and the average production were posted at the creamery. The following report shows the record of the first ten herds:

Herd.	Av. No. Cows.	Av. Prod. Bf.
1	15	285
2	9½	2636
3	10	2555
4	12½	2494
5	6	2386
6	4¾	2378
7	4	2327
8	14¾	2294
9	15½	2274
10	9	2248

Many of the lower herds averaged less than 75 pounds. In fact, at one creamery, over 44 per cent of the farmers brought to the factory less than 100 pounds per cow. In the whole association, over 29 per cent brought less than 100 pounds. We have a complete check on 9,004 cows. When we consider the butterfat used at home by the family, the average production of all these cows was 134.3 pounds of butterfat.

We have no means of knowing absolutely the value of these contests. We believe they are doing a tremendous amount of good. They have precipitated more discussion and agitated the subject of good cream and proper methods more effectively than could be done in any other manner. We do not know what will be the effect of all this on the growing generation of farmers.

Milk houses and many silos have been built, pure bred dairy sires have been purchased. There is no doubt but that some of these changes are due directly to the association.

Thus far in this discussion we have not tried to explain the effects of its organization. It has not existed a sufficiently long time to enable us to show very many. We have tried to show you what has been done. You'll have to judge largely for yourselves as to the effects.

This co-operative movement has many difficulties just as any other progressive move has. The district is about 50 miles long and about 40 miles wide. It is so large that the dairy expert does not find time to do much individual work with each patron. He is spread out pretty thin, and many say that they can't see that much is being done. There is a tendency on the part of many to confuse this organization with the dairy expert. They forget that the association has, or should have, other functions besides employing a hired man to agitate good methods. The majority do not yet appreciate the opportunity for co-operation between the different factories. There is much work yet to be done. I thank you.

Mr. Shoemaker: The next will be the election of officers. The first is the president for the ensuing year.

Mr. Thomas: In view of the fact that our present president's time is so taken up with his business duties that it isn't possible for him to continue as president. I have a man in view to present. He is a man well known throughout the state and a practical dairyman. I refer to R. B. Young, of Buffalo Center, and place his name as a candidate.

(There being no other candidate, the secretary was instructed to cast a unanimous ballot for Mr. Young as president.)

Mr. Young: I consider it a great honor to have been selected as president of this association. I can say that I will do the best I can and try to fill the position in a way that will please you.

Mr. Shoemaker: The next in order is vice-president.

Mr. Forrester: I wish to place the name of a buttermaker you all know. He is a hustler and is well qualified for this position. I wish to place the name of L. L. Flickinger, of Fredicksburg.

(The secretary was instructed to cast a unanimous ballot for Mr. Flickinger as vice-president.)

Mr. Shoemaker: Who will you have for secretary?

Mr. Trimble: I wish to place the name of a man we all know and we know he has made good as secretary for the past few years. I nominate J. J. Ross, of Iowa Falls, to succeed himself as secretary.

(The president was instructed to cast a unanimous ballot for Mr. Ross as secretary.)

Mr. Shoemaker: The next is the treasurer. Who will you have for treasurer?

Mr. Barney: I wish to place the name of a young man well known as the author of "Everybody Milks in Iowa." Mr. E. T. Sadler, associate editor of The Creamery Journal.

(The secretary was instructed to cast a unanimous ballot for Mr. Sadler as treasurer.)

Adojurnment.

(On motion, the association was instructed to send a bouquet of flowers and a telegram to Prof. Mortensen.)

PART IX

EXTRACTS FROM

State Dairy Commissioner's Report of 1911

TWENTY-FIFTH ANNUAL

W. B. BARNEY, Commissioner

The law creating the office of State Dairy Commissioner requires an annual report to the governor of the state covering the dairy business of the state. Later enactments make this department responsible for the enforcement of the following laws:

PURE FOOD LAW,
PAINT AND LINSEED OIL LAWS,
TURPENTINE LAW,
WEIGHT AND MEASURE LAW,
CONCENTRATED FEEDING STUFFS LAW,
CONDIMENTAL STOCK FOOD LAW,
AGRICULTURAL SEEDS LAW.

The foregoing statement of expenses of this department includes the salary of the commissioner, the deputy commissioner, the state dairy inspector, the four assistant dairy commissioners, the assistant dairy commissioner and food inspector, and the clerical help in both the dairy and food departments. The janitor, though paid by this department, does the work in the Veterinary Department.

The last legislature wisely authorized the employment of two more assistant dairy commissioners and transferred the state milk inspector to the dairy department. They made his title state dairy inspector. These changes were recommended by this department and it is most gratifying to us to be able to have a force of sufficient size to care for the work in a way that will prove both profitable to the dairy interests of the state and acceptable to the general public.

Our work with the Thirty-third General Assembly as President of the Iowa State Dairy association led us to believe that about the only way this department could get the additional help they so much needed was by the enactment of a license law that would bring revenue to the state that would pay a large portion of the salary and expense of the extra help.

As the state dairy inspector is authorized to do work over the entire state, we recommended that the milk license law effective in cities of 10,000 population or more be made to apply to all municipal incorporations, which would materially increase the revenue from this source.

As a great share of the time of the assistant dairy commissioners is spent looking after the interests of the creameries and cream buyers, we advised the enactment of a law requiring operators of the Babcock test for testing milk or cream for purchase, to take out a license for which they shall pay $2.50 per annum.

The operator of the test is required to pass an examination to show that he or she is competent and qualified to properly use the test. At first thought, it was not the intention of this department to require the older creamery men and buttermakers to take this examination, but after due consideration we concluded that we would never know where to stop if we extended any favors of this kind. We have, therefore, required all applicants for license to take the examination. It may be of interest to know that of the 2,400 applicants more than 300 did not qualify on being examined the first time. Many of these have posted up and have since taken another examination, with the result that they have been issued a license. About forty applicants have not qualified. Only a small percentage of the applicants from whom we have withheld licenses are buttermakers.

For the purpose of enabling applicants for these licenses to take the examination with the least possible expense, one of the assistant commissioners has visited at least one accessible point in each county in the state to give examinations. Many counties have been visited two or three times. Much of benefit in an educational way was derived from these examinations, and the need of information on the proper use of the Babcock test was appreciated by the commissioners giving the examinations. At their suggestion and the earnest solicitation of many of the operators, Bulletin No. 6, giving full and complete instructions for the operation of the test was issued under date of October 15th, and may be secured from this department upon request.

This law has a provision whereby the commissioner may revoke any license issued under the law. This we believe one of the most helpful provisions of the act.

A very large portion of the time of the dairy assistants during the summer has been taken up giving examinations. This will not have to be gone over again next year. There are only a few more to be given and from this time on our assistants will be at liberty to take up their regular work. If a creamery secretary or buttermaker cannot get service out of one or more of these men to the amount of $2.50 per year, it will be their fault or neglect in not asking for this help.

Fifteen or more new creameries have been started in the last year, and five or ten that had closed for want of business have been reopened. Where opportunity has been offered this department has assisted in organizing. We regret that in some instances, these creameries have been organized under what is known as the ''promotion plan'' at an expense anywhere from $1,000 to $2,000 in excess of what they would have cost had they taken the matter up with this department. We are at all times ready and willing to send an assistant commissioner to help perfect organizations of this kind, and see that they are equipped with plans, by-laws, etc. When the building is finished the equipment can be bought on the open market at any of the supply houses

We have experienced no little trouble in getting the people of the state to understand that we were willing to aid them in this work of organization. In many cases they have learned this too late or after they had made their contract with a promoter. We deplore the fact that in not a few instances they have been given obsolete equipment in place of that which is up-to-date.

We think we are making a conservative estimate, when we say that more dairy sires have been placed at the head of the dairy herds of the state in the last two years than in the ten years previous.

Little improvement in our butter production could be expected until some change from our former methods could be brought about. For a number of years the average per cow in Iowa has been 140 pounds of butter fat. The fact that for twenty-five years practically no dairy sires were introduced in the state, we believe one of the best reasons that there has been no improvement in our dairy cows. Within the next few years as the heifers sired by these dairy sires come in milk, we expect to see the average per cow materially increased. The high land valuations have brought about a condition that makes it out of the question for the producer of beef to make money on scrub stock or anything but cattle bred for this purpose. Our people have been a long time in awakening to the fact that this same economic principle holds good in breeding cattle for the dairy.

CITY MILK INSPECTION.

I am pleased to report that the last General Assembly passed laws that are of material benefit in the prosecution of this work, particularly that section granting this department the power to refuse a milk license to those deemed unworthy, and to revoke a license once granted when the terms thereof have been violated. While this power has been exercised to a very limited extent, it serves as a ''big stick'' and as such is of undoubted benefit.

Along the lines of further legislation for this department, I would recommend that a law be passed defining more explicitly who are milk dealers. I would also retiterate the statement made in my last report, advising that the pay for local milk inspectors be increased. The new law requiring milk dealers in all the smaller towns to pay a license as well as those in the cities is also an equitable one, as well as that section requiring that the name of the dealer or dairy be printed on the wagon. The policy of insisting that the cities appoint local milk inspectors before we appoint a state milk inspector we are convinced is proper and shall continue.

The most common form of adulteration found is that of skimming the night's milk, this having set for a sufficiently long time before delivered to allow the cream to raise. The most flagrant violation of the milk law we find is among the restaurants, cafes and hotels in that they are in the habit of storing milk in upright coolers with a faucet at the bottom, from which the milk is drawn and the customer is served with poor milk. Many prosecutions have been made along these lines and we believe much good has been accomplished thereby. In some of these cases the law was not willfully violated, but in others, the milk would be drawn off and sold by the glass until the cream is reached, when this would be drawn into pitchers and used as cream. In some instances these restaurants were buying milk as low as sixteen cents per gallon and a gallon of milk will, as ordinarily served, make sixteen glasses. At five cents per glass it will be at once observed that the dispensers were making a profit of 500 per cent., which should be ample. In some instances they are serving milk in one-half pint bottles, the same having been bottled at the dairy and all samples of milk secured by the inspectors of this department when thus handled have proved to be of good quality, and we heartily recommend this way of retailing milk.

The muck-raker and the yellow journal have no place in dealing with the milk question. Unreasonable and adverse criticism of the local milk supply tends to markedly increase the consumption of condensed milk, the public having the erroneous impression that they have a much more sanitary and healthful product and ignoring the fact that it comes originally from the same old cow. It is our policy to educate the milkman along sanitary lines rather than to prosecute him for ignorant violation of the law.

I have in mind one specific instance where a milkman was selling milk in one of our larger cities and was visited by our State Dairy Inspector several months since. The barns were devoid of windows, uneven and broken plank floors, ventilated only by the cracks between the boards of the unpainted side-walls and roof, cob webs hanging all over the inside, in short, unsanitary to a marked degree. Eighty cows of all sorts except good ones with long hair matted with filth. He complained that it was hard for him to make good milk, impossible to keep good help, and that he was making no money. Upon advice of the Inspector he later visited the dairy districts of Wisconsin, inspecting the dairies and their methods and upon his return home he built a modern, sanitary barn with cement floors, windows galore, an automatic system of ventilation and a silo, bought a few full-bloods and the balance of his herd grade cows of this same breed. Upon a recent subsequent visit by this inspector on a cold winter's day, it was his pleasure to observe the uniformly dairy type and the contented and thrifty condition of the cows. This dairy-man said: "I have solved the labor question. Good men stay with me now, it is a pleasure to run this dairy, and my wife says I spend my leisure hours out here with the cows, and last but not least I am now making it pay." This is only one among many similar instances that might be cited.

Some improvement has been made in the quality of milk sold, as well as in the sanitary condition of the dairies, but much more remains to be done, and I feel that the most good can be accomplished along educational lines—for as among dairymen of all classes the producer of milk to be sold and consumed as such, there is a tendency to fail to appreciate the importance of strict sanitation and that milk is a food consumed largely by invalids and children of tender years, and that clean, sanitary milk cannot be produced in a filthy and unsanitary barn. The cow gives clean, almost germ-free milk, and when milk is otherwise it should be charged to the failure of human intelligence or willful carelessness on the part of man.

The most marked defects of dairy barns in this state is the lack of sunlight in the barns and proper ventilation. There are but two requisites for the production of pure milk. The first is to keep dirt out of the milk, and the second is to cool it as quickly as possible after milking and keep it cooled below fifty degrees Fahrenheit. The first excludes bacteria, and the second prevents the growth or multiplication of those few that may have found lodgement therein, with the exception of the one bacteria that is the bane of the milkman—the bacillus lactis viscosus, which multiplies only after the temperature of the milk has been reduced to fifty degrees Fahrenheit or below. This bacteria causes milk to present a slimy, ropy, greasy and repulsive appearance, and the housewife erroneously attributes this condition to the fact that the cows are sick and the milk extremely dangerous as human food. It is unfortunate that some of the dangerous germs like those of tuberculosis or typhoid should not manifest themselves as plainly as does this one.

Table showing the number of milk licenses issued to city milk dealers for each year from 1904 to 1911. In each case the year ends on July Fourth.

	1904	1905	1906	1907	1908	1909	1910	1911
Number........................	780	827	803	1006	1078	1149	1106	1310

Cities	Population	Inspectors
Boone	10,347	
Burlington	25,741	M. E. Flynn
Cedar Rapids	32,811	Phil Pray
Clinton	25,577	
Council Bluffs	29,292	Peter Smith
Davenport	43,028	H. J. High
Des Moines	86,368	J. Howard Sasseen
Dubuque	38,494	F. J. Kennedy, D. V. S.
Fort Dodge	15,543	D. C. Benjamin
Keokuk	14,008	W. P. Sherlock, M. D.
Iowa City	10,091	C. S. Chase, M. D.
Marshalltown	14,000	J. A. Turner
Mason City	11,230	A. L. Wheeler, M. D.
Muscatine	16,178	John Tillie, D. V. S.
Ottumwa	22,012	B. W. Van Der Veer
Sioux City	47,848	E. C. Pape
Waterloo	26,693	W. W. Wyant

CARE OF MILK AND CREAM.

No articles of our diet are more benefited by cleanliness and low temperature than the products of the cow. Probably no other food products are so easily contaminated or become such a harbor for disease producing bacteria as milk and cream kept at high temperatures. Thus it is very important for the producer, as well as the wholesaler and retailer, to be provided with the proper facilities for reducing and holding down the temperature during the warm summer months.

The loss on butter each year, due to the stale and deteriorated condition of the cream from which it is made, reaches far past the million dollar mark. This poor quality of butter has become so marked during the past few years that several states have seriously considered the passing of stringent laws to regulate the quality of cream which may be sold for butter-making purposes. So long as the farmer gets no more per pound for clean, sweet cream than for an old, stale article, there is no incentive for him to improve the quality of his product.

In view of the fact that just such conditions existed in the state of Iowa, the Dairy and Food Commissioner made the following ruling on March 15, 1911:

"The Dairy and Food Commission of the State of Iowa will use every means to bring about the grading of cream and paying therefore according to quality or grade. The best interests of dairying in this state demand that this system be adopted, and the following grades are hereby established:

SPECIAL GRADE CREAM is hand separator cream showing not more than .15 per cent. acidity, free from bad odors, not over two days old in warm weather and not more than three days old in cold weather and testing 25 per cent or above;

FIRST GRADE CREAM is hand separator cream reasonably sweet, free from bad odors, not over three days old in warm weather and not over four days old in cold weather, and testing 25 per cent or above;

SECOND GRADE CREAM is cream not reasonably sweet, over three days old in warm weather and over four days old in cold weather, is not of good flavor, hand skimmed and water separated, and testing less than 25 per cent butter fat."

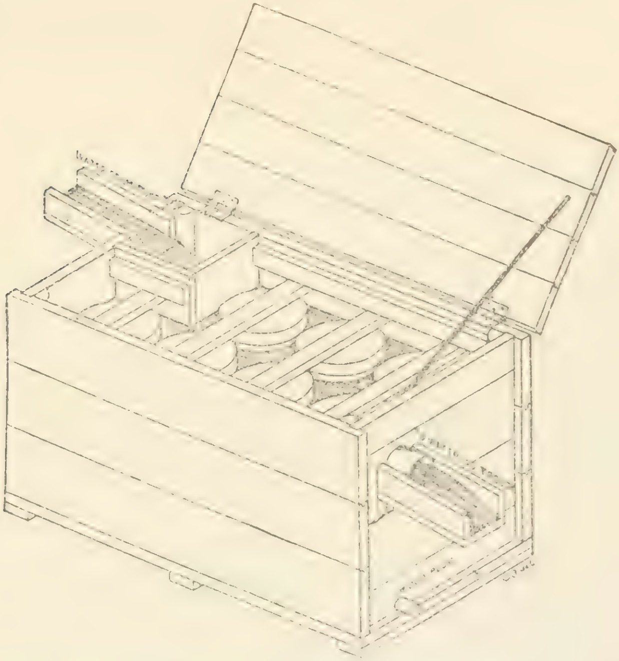
COOLING CREAM AND MILK BY USING WATER.

The principle of keeping cream in good condition is to produce as clean cream as possible by having clean milk; by having all utensils with which the cream comes in contact thoroughly cleansed; by the proper cooling of the cream as soon as possible after separation, and the holding of it at as low a degree of temperature as fresh well water will allow.

Milk, to be kept or sold as such, should be cooled as soon as drawn, but if separated, the cream should be cooled immediately after the separation has taken place. Fresh cream should never be added to that of a previous separation until it is cooled to the same temperature.

One ideal way of keeping cream cool is to have a small tank into which the water is pumped; place this tank between the pump and the stock tank so that all the water pumped from the well must pass through this small tank. Put the cream in shotgun cans and place them in this tank and arrange to have the water in the tank two or three inches higher than the cream. Cuts 1 and 2 and 3 show a very desirable arrangement to facilitate the carrying out of this idea.

Fig. 1



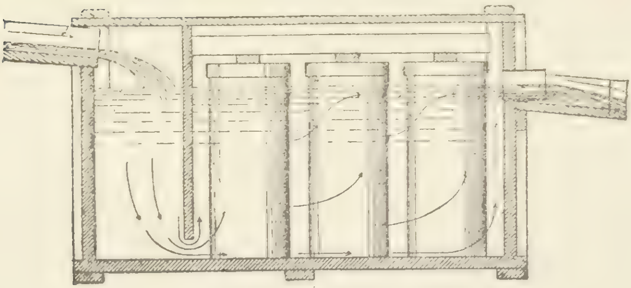


Fig. 2

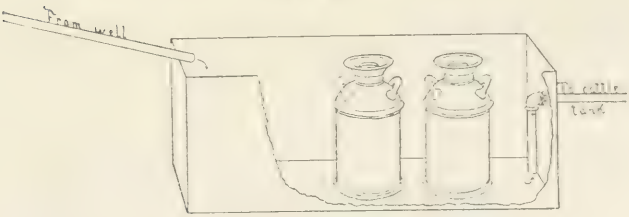

From well
To cattle tank

Fig. 3

Most any tank can be used for this purpose whether wood, concrete or galvanized material. It is always better to have some sort of a milk house to place the tank in to protect the cream cans and cooling water from the sun and hot winds in summer and the frost and storms in winter.

PUT UP ICE ON THE FARM.

Most any kind of building will serve the purpose of a cheap ice-house to store ice for home use. Anything that will keep the sun and rain out will do. A cheap ice house could be constructed in the corner of a shed or against another building. All that is necessary is to provide some drainage and cover the house on all sides, top and bottom with about 12 inches of sawdust or 24 inches of hay or cut straw and protect the covering from the weather.

YEARLY TESTS.

We are pleased to announce that W. W. Marsh of Waterloo, Iowa, has continued for another year his offering of $1,000.00 for yearly tests to be conducted by the Iowa State College under the supervision of the Iowa Cow Culture Club. The work being done this season is really of more value than that of previous years for the reason that this Marsh Contest is encouraging quite a number of fellows to make yearly tests of their cattle, a thing which has not been done in the past, but is a thing which really means more to the dairy industry of the state than anything else.

NORTH IOWA DAIRY IMPROVEMENT ASSOCIATION.

The North Iowa Dairy Improvement Association under the leadership of G. W. Patterson as dairy expert is now on its second year's work. The objects of the association are to improve the quality of the product and to increase the production of the cows. Much has been done to improve the quality of the cream delivered to the creameries. The dairy expert has a complete check on 9,004 cows or 727 herds. The following shows the record of the first ten herds, the average production being the amount of butter fat brought to the creamery:

Herd.	Av. No. Cows.	Av. Prod.
1	15	285
2	9½	263.6
3	10	255.5
4	12½	249.4
5	6	238.6
6	4¾	237.8
7	4	232.7
8	14¾	229.4
9	15½	227.4
10	9	224.8

The foregoing figures show quite conclusively that the association is doing a great deal of good in improving the producing ability of the individual animal.

There is no valid reason why other associations should not be formed throughout the state. The Dairy and Food Commission stands ready at all times to assist in organizing new associations and to assist them in any way after the organization. The increasing demand of the consuming public for more and better dairy products should stimulate the producer along the lines of better dairying.

ICE CREAM.

Realizing the importance of the ever growing ice cream industry in the State of Iowa, we feel that any efforts made on the part of the Dairy and Food Commission in stimulating the manufacture or improving the quality of this product is energy well directed. For many years the buttermakers have received aid from the State Fairs, Dairy Associations and Experiment Stations through contests and short courses, for the purpose of increasing their efficiency and making their finished product more salable. These sources of education have been of untold benefit to the buttermaker, and it is only reasonable to assume that the same avenues of information would be equally as beneficial to the ice cream maker. The ice cream industry has increased tenfold in as many years; where once considered a luxury it is now almost a necessity, and where once manufactured in a wholesale way only in the larger cities, is now so manufactured in nearly every city and hamlet in this and other states.

The increased consumption and manufacture of ice cream has led the department to take two steps: First—The adoption of an ice cream standard; Second—Furnishing assistance to those starting in the manufacture of ice cream and to those who wish to improve their product.

Our assistant has found in the work he has done so far with the ice cream makers that there are several respects in which the makers could improve their methods in order to secure uniformity of product and decrease the cost of production. The cream used in ice cream should be of known richness or per cent. consequently all of the cream should be standardized, for only through using cream of uniform standard can uniformity be secured in the finished product. Not only to secure uniformity of product, but to put the maker on the safe side of the ice cream standard should the raw cream be standardized. It also enables the manufacturer to know to the cent what the cost of the raw materials is.

A simple method for standardizing and one that can be applied by any maker is the "Square Method." It can be applied to any problem which may come up. For example, the cream you wish to standardize tests 39 per cent and the milk on hand tests 3.7 per cent., how much cream and how much milk will it be necessary to mix in order to get a 20 per cent cream?

39 16.3
20
3.7 19.

In the center of the square place the per cent. to which it is desired to standardize, at the upper left hand corner place the figure representing the richness of the cream used, and at the lower left hand corner place the per cent. of fat in the milk. In order to get the amount of each to use in standardizing, all that is necessary to do in order to get the proportions is to simply subtract the 20 from the 39 giving 19, or the parts of milk necessary to use, and from 20 subtract 3.7 leaving 16.3, the number of parts of cream to use with 19 parts of milk. From this we see that in order to produce 20 per cent cream from 39 per cent cream and 3.7 per cent milk, it is necessary to use for every 16.3 pounds of cream, 19 pounds of milk, giving a total of 35.3 pounds of 20 per cent cream.

From this proportioning, it is possible to work any problem in standardization. If you wished 400 pounds of 20 per cent cream and had 39 per cent. cream and 3.7 per cent. milk to make it from, it is necessary to divide 400 by 35.3 which will give a factor with which to multiply the number of pounds of cream and milk required to make 35.3 pounds of 20 per cent. cream, the sum of which will give 400 or 400 pounds of 20 per cent. cream.

Another example using the same figures: Suppose you had 59.5 pounds of 39 per cent cream and wished to know how much 3.7 per cent. milk would be required to reduce it to 20 per cent. This can be determined by dividing 59.5 by 16.3, the amount of cream used for every 19 pounds of milk, giving a factor which multiplied by the 19 will give the number of pounds of milk to use.

Some will ask, "How is this method used in standardizing cream with skimmed milk?" The method is just the same, the skimmed milk being figured as zero per cent.

39 20=20—0
20
0 19=39—20

The proportions are the same as before for every 20 parts cream 19 parts skimmed milk are required to reduce it to 20 per cent.

It sometimes may occur that creamerymen may want to know how much skimmed milk it will be necessary to remove from an amount of whole milk in order to get a 20 per cent cream. The square method still holds good except the proportions are a little different. Given 3.7 per cent milk to reduce to 20 per cent cream:

3.7 20
20
0 16.3

16.3 pounds of skimmed milk must be removed from each 20 pounds of 3.7 per cent. milk in order to get 20 per cent. cream.

Along this same line, a large number of the makers called upon have asked the question, "What must the cream used in ice cream test so that when it is made up the ice cream will come up to the required standard?" The sugar, flavoring material, and filler added to the cream adds weight to the mix—consequently, a reduction of the percentage of butter fat. Just how much the cream will be reduced depends upon the amount of ingredients added.

A rule that can be followed to determine the percentage of cream which must be used in order to conform to the standard, is as follows: Multiply the weight of the mix by the percentage of butter fat desired in the ice cream and divide this by the number of pounds of cream used in the mix. To illustrate—suppose the mix consisted of 44 pounds of cream, 8 pounds of sugar, 4 ounces of filler, and four ounces of flavor, making a total weight of 52.5 pounds for the mix. In order to be on the safe side, at least a 12.5 per cent. ice cream should be made.

52.5 X .125=6.56=pounds of butter fat,

which must be contained in the mix, or pounds of fat in the original cream. By dividing 6.56 by 44 we get .149 or 14.9 per cent, the test of the cream which must be used in the mix to give a 12.5 per cent ice cream.

A large number of the makers visited bought their cream by the gallon and were paying prices equivalent to 41 to 55 cents per pound butter fat. This cream was bought on the supposition that it tested 18 to 24 per cent. In a great many instances the test fell considerably below these marks. From these observations, it seems that buying cream by the gallon unnecessarily increases the cost of manufacture since sweet cream could be had very generally over the state at prices ranging from 2 to 10 cents above market quotations for butter to 40 cents per pound butter fat. Where butter fat was bought, 40 cents was the highest price paid.

Several makers in making up their ice cream used these supposed tests as a basis in standardizing their cream and were surprised that their ice cream did not test as much as they had thought. From this, we are led to believe that the ice cream makers who have been buying cream by the gallon would do well to pay by the test.

By standardizing the cream for ice cream making the guess work can be eliminated and by paying for cream by the test the cost of manufacture should be reduced.

DAIRY TRAINS.

The dairy trains that have been run over the Chicago, Burlington & Quincy, the Chicago, Milwaukee & St. Paul and the Chicago Great Western by the Iowa State Dairy Association and kindred interests during the past year, have done an enormous amount of good in stimulating the dairy industry in this state. Following in the wake of these trains we find many new silos, the disposition of poor dairy sires and in their places we find pure bred animals with milking records in their pedigrees, and a general increase in the quality of the average dairy cow shown by a marked increase in her yearly production.

With pardonable pride, we recognize the fact that every county in Iowa is well adapted for dairy farming and any amount of work done to better the dairy conditions in this state through the press, by the railroad companies, by the State Dairy Association or by the Dairy and Food Commission will not lack for appreciation. We should be milking more and better cows than we are; we should test them and weed out the poor ones, raise the standard not only of our herds but of our products as well; we should recognize the laws of the state regulating the sanitary care of our dairies and listen to the efficient means used in disseminating the basic principals of up-to-date dairying.

SILOS AND SILAGE.

The high price of concentrated feed is, at the present time, one of great importance to the dairyman. Ten years ago it was impossible to buy commercial feeds at a nominal cost, but today they have almost doubled in prices. The dairyman with pure bred stock or a fancy market may possibly make a profit by using such feed, but the average farmer must strive to raise his own grain and roughage to a large extent. Too many farmers are prone to believe that the only way to make money is to get high prices for their products and have plenty of these products to sell; but prices are not always high and the farmer does not always have a large supply on hand, so there must be some other factor entering into the profit side of dairying. It is reasonable to assume that the dairyman receiving only a fair price for his product should be able to have an income sufficient to pay him wages besides a fair net profit. Considering the present price of butter fat the well managed dairy farm should indeed be a source of wealth.

In the central west corn is hailed as the king of all cereals, forming the backbone of the rations of the majority of our farm animals. By placing corn in the silo the stalk as well as the ear is preserved, thus making the whole corn plant available for feeding purposes. Practically 40 per cent. of the feeding value of the corn plant lies in the stalk, leaves and husks, the remainder in the ear. Therefore if only the ears are gathered, much of the remaining 40 per cent. of the crop remains in the field to bother the farmer in preparing his seedbed for the following year. As corn should be cut for the silo before the lower leaves are lost there is practically no waste. About twice the amount of dry matter can be stored in the form of silage as corn fodder. A cubic foot of hay in the mow contains about 4.3 pounds of dry matter, while a cubic foot of silage contains 8.9 pounds of dry matter. A cubic foot of space in the silo is therefore worth more than twice an equal space in the mow.

The digestive organs of animals that chew their cud are so formed as to require comparatively juicy and bulky feeds. The cow cannot thrive on dry feed as well as the horse. The ideal food for the dairy cow is green pasture but for a number of months during the year she is deprived of this feed. The best substitutions for green pasture are root crops and corn silage. As silage yields twice as much dry matter per acre as roots and does not require as much labor, silage is by far the more economical wherever corn can be raised. Silage has a laxative effect upon the animal and aids in maintaining a healthy and vigorous condition.

The population of the United States is doubling every thirty years, which means that the farms will gradually become smaller and that more feed must be produced per acre. The high price of land also demands that more intensive methods must be used to obtain a dividend in proportion to the value of the soil. Practice tells us that one acre of corn placed in the silo will yield enough feed to supply a milk cow 40 pounds of silage for 500 days or 4 cows 125 days.

Another important factor is the reduction in storage space of silage compared to that required for hay. One ton of clover hay occupies 400 cubic feet while 8 tons of silage can be placed in the same space. The clover hay contains 886 pounds of digestible nutrients while the silage contains 2,064 pounds. Thus the corn silage occupying the same space as the clover hay contains two and a half times the digestible nutrients.

Silage as a milk producer compares very favorably with the other more concentrated and more expensive feeds. Being a very succulent and palatable feed it can be very aptly termed the great substitute for pasture in the corn belt. We all look forward to the increased milk flow when the cows are turned to pasture in the spring after having received nothing but dry feed for six months. The milk cow is a sensitive animal at hard work and should be nurtured on the best feed possible. Silage makes possible a succulent feed for winter use, spurring the appetite of the cow and causing her to relish her feed in winter as well as summer.

Several years ago at the Ohio Experiment Station the substitution of silage for grain in the ration proved very successful. Silage was used to take the place of over half the grain ration and proved to be much cheaper. The silage ration produced milk for 68 cents per 100 pounds and butter fat at the rate of 13 cents per pound. The grain ration produced milk at $1.05 per 100 pounds and butter fat for 22 cents per found. This made the profit from the silage ration $5.86 per month and of the grain ration $2.46 per month.

There is usually a time during every summer when the pastures dry up, due to lack of rain and the hot dry winds. The dairyman should be prepared at this time with some feed to stimulate the milk flow and keep it up; a soiling crop or silage are the more available crops. Soiling crops require too much time and labor for the average Iowa farmer as they must be cut and hauled every day, so this leaves silage as the remaining substitute. Chas. L. Hill of Guernsey fame says he feeds silage 365 days in the year, and that the cows relish the silage even when supplied with green pasture grass.

In constructing a silo there are many things to be considered, the most important of which are shape, capacity, efficiency, durability, cost and location. In regard to capacity the silo should be constructed with reference to the size of the herd and the length of time you wish to feed silage. Each animal will consume from 30 to 40 pounds per day, so if silage is fed for 200 days she will consume about 4 tons per year. Figuring from this, a herd of ten cows will require a 40-ton silo; 15 cows a 60-ton silo and 50 cows a 200-ton silo. The quality of silage improves as the depth increases due to the weight above. A certain percentage of mouldy silage found near the top of the silo proves that a certain weight is necessary to compress the silage and exclude the air. A silo should be at least 30 feet deep with a diameter gauged by the size of the herd. In order that silage may be fed in good condition about one and a half inches should be used from the top in winter and three inches in summer.

It is all important that silage be perfectly preserved and this all depends as to whether the silo is air-tight. There are many types of silos upon the market today and all have their advantages, the stone, brick, tile, cement and stave silos are all used with success. In the northern section some trouble is experienced with freezing but this can be largely eliminated by tight packing and insulation of the walls. To facilitate close packing the walls must be straight and smooth on the inside and free from shoulders or abutments of any kind. The admission of air or the presence of air pockets allow fermentation to take place, which spoils silage.

The success of a silo depends first upon its strength and second upon the durability of the material used in the construction. To be durable any material must resist the action of the weather, the constant wetting, drying, freezing and thawing which take place both inside and outside the silo. During the summer the silo is generally empty and must be built exceptionally strong because of its height in order to resist storms during this season. It is desirable that the silo cost as little for repairs as possible and the one that must be constantly adjusted for shrinkage and expansion is of less value than the one that needs no such attention. The silo should always have a roof which not only preserves the silage but braces the walls at the top.

ENCOURAGEMENT OF THE DAIRY AND BEEF CATTLE GROWING INDUSTRIES.

Chapter 203, Acts of the 34th General Assembly:

Sec. 1. Iowa State Dairy Association. Whenever the organization now existing in the state of Iowa and known as the Iowa State Dairy Association shall have filed with the secretary of state of the State of Iowa verified proofs of its organization, the names of its president, vice president, secretary and treasurer, and that it has five hundred (500) bona fide members, such association shall be recognized as the Iowa State Dairy Association of the State of Iowa, and be entitled to the benefits of this act.

Sec. 2. Inspection—instruction. For the purpose of aiding in the promotion and development of the dairy industry of the state of Iowa, such association shall cause to be made such inspection of dairy farms, dairy cattle, dairy barns and other buildings and appliances used in connection therewith, dairy products and methods as they shall deem best and shall arrange to furnish such instruction and general assistance, either by institutes or otherwise, as they may deem proper to advance the general interests of the dairy industry of the state.

Sec. 3. Executive committee. For all purposes of this act the said association shall act by and through an executive committee of five (5) members, consisting of the president, and vice president, of the Iowa State Dairy Association, the dean of the Iowa State College of Agriculture and Mechanic Arts, and the professor of dairying of the same institution, and the food and dairy commissioner of the state of Iowa.

Sec. 4. Inspectors and instructors—compensation—expenses. They may employ two or more competent persons who shall devote their entire time to such inspection and instruction under the direction of the said executive committee, and who shall hold office at the pleasure of the committee, and who shall each receive a salary not to exceed fifteen hundred dollars ($1,500.00) per annum, and actual expenses while engaged in such work.

Sec. 5. Annual report to the Governor. The said association may require such reports from their employes as they shall deem proper, and shall make to the Governor an annual report of their proceedings under this act, which report shall be published as a part of the proceedings of the annual convention of the Iowa State Dairy Association.

Sec. 6. Beef Cattle Breeders' Association. Whenever there shall have been filed in the office of the secretary of state for Iowa verified proofs of the organization of the Beef Cattle Breeders' Association, together with proofs that such association has five hundred (500) bona fide members who are stock breeders or stock feeders in this state, together with the names of the president, vice president, secretary and treasurer, such association shall be recognized as the Iowa Beef Cattle Breeders' Association and be entitled to the benefits of this act.

Sec. 7. Instruction—inspection—executive board. It shall be the duty of the Beef Cattle Breeders' Association to aid in the promotion of the beef cattle industry of the state and to provide for practical and scientific instruction in the breeding and raising of beef cattle, and to provide for the inspection of herds, premises and the appliances, methods and foodstuffs used in the business of feeding for the purpose of making suggestions and demonstrations beneficial to the business. The said association shall act by and through an executive board to be composed of the dean of the department of agriculture of the Iowa State College of Agriculture and Mechanical (mechanic) Arts at Ames, and the professor of animal husbandry of the same institution and the secretary of the State Agricultural Society, and the president and secretary of the said Iowa Beef Cattle Breeders' Association.

Sec. 8. Inspectors and instructors—compensation—expenses. The said board may employ two or more competent persons who shall devote their entire time in making inspection and giving instructions, as provided in this act under the direction of said board. Such instructors and inspectors shall hold office at the pleasure of the board and shall each receive a salary of fifteen hundred dollars ($1,500.00) per annum and actual expenses while engaged in the work.

Sec. 9. Salaries and expenses—how paid. The salaries of all persons employed under the provisions of this act shall be paid monthly out of the appropriation herein provided and all traveling expenses and all general expenses incurred by the association in carrying out the purposes of this act shall be paid out of the said appropriation and in the manner provided by Sections 170-d, 170-e and 170-f of the supplement to the code, 1907, and upon statements filed with the executive council as therein provided; but no such bill shall be paid until after the executive committee of the board, under whose authority such expense was incurred, have audited and approved the bill upon the part of such association.

Sec. 10. Appropriation. For the purpose of carrying into effect the provisions of this act and the payment of all expenses connected therewith, there is hereby appropriated out of any fund in the treasury of the state, not otherwise appropriated, the sum of fifteen thousand dollars ($15,000.00), or so much thereof as may be necessary to pay the salaries and expense provided for under the provisions of this act, provided, however, that of the said appropriation the sum of seven thousand five hundred dollars ($7,500.00) shall be available for the purpose of paying the expense incurred by the Iowa state dairy association board, and the sum of seven thousand five hundred dollars ($7,500.00) shall be available for the purpose of paying the expense incurred by the Iowa beef cattle breeders' association board. It being the purpose of this act to provide a fund of seven thousand five hundred dollars ($7,500.00) for the encouragement of the dairy industries and a sum of seven thousand five hundred dollars ($7,500.00) for the encouragement of the beef cattle industry in this state.

Sec. 11. Funds not to be used for private purposes. None of the money appropriated by this act shall be used to pay the salaries or expense, or used in any manner for the private benefit of any member of the board of either of the said associations.

Sec. 12. In effect. This act being deemed of immediate importance shall take effect and be in force from and after its passage and publication in the Register and Leader and the Des Moines Capital, newspapers published in the city of Des Moines, Iowa.

Approved April 14, A. D. 1911.

ADULTERATED BUTTER.

During the past twelve months the usual number of Iowa creameries have been so unfortunate as to place on the market a shipment or two of butter which agents of the Internal Revenue Department have alleged to contain an excess amount of moisture. Much criticism has been registered regarding the methods of those handling this branch of the government work and the creameries interested are clamoring loudly for some relief from the methods employed by the revenue agents.

Some of these creameries complain of the manner in which the samples are taken and also allege that they are not given any chance to make a defense but have been compelled to pay the penalties assessed without any hearing on the subject.

The creameries have generally adopted the plan of testing every churning for moisture and most of the factories have taken every precaution to guard against incorporating enough moisture to cause their butter to be classed as adulterated. Under the present administration of the Department of Internal Revenue, the creameries are constantly facing the danger of having to pay extreme penalties for incorporating moisture in excess of the standard arbitrarily fixed by the Internal Revenue Department. It is of the utmost importance to the creameries of Iowa that some change be made in the federal law relating to the manufacture of adulterated butter or that some rulings of the Commissioner of Internal Revenue be so modified as to insure fair treatment where creameries are charged with the manufacture of adulterated butter.

The penalties range from $100 to $750 for a single churning of butter and it is our belief that the greatest care should be exercised by those having the enforcement of the federal laws where the penalties as so severe as in some instances to cause the plant to suspend operations.

CHEESE.

The manufacture of cheese has shown a slight decrease during the past year and the amount reported by these factories is 224,424 pounds. Very little interest seems to be exhibited in the manufacture of cheese and there seems little hope of increasing the number of factories in this state.

With the increased assistance given this department by the last legislature, we can, perhaps, give a little more attention to the cheese factories than has been possible during the past and we can possibly make those factories now in operation more profitable to the producer.

The quality of Iowa cheese has never been such as to command a high premium and this is no doubt one of the reasons that more communities have not engaged in the manufacture of cheese.

THE PRICE OF BUTTER.

The attached table gives the average price of western extra creamery butter in the New York market for each year since 1900. The average price for the twelve months ending Nov. 1, 1911, was 26.13, this being about 4 1-2 cents less per pound than the price for the previous year. The low average is due to an accumulation of poor butter which was thrown on the market in the spring of 1911. Much of the butter stored during the previous summer was not of the best quality and was bought at a price which prevented its being sold at a profit.

The owners of this butter in the hope of receiving a price which would enable them to sell without loss waited until the beginning of the new butter season before disposing of their holdings. The unloading of this large amount of poor butter during the spring months demoralized the butter market to such an extent that prices remained at a low figure until the dry weather began to reduce current receipts of fresh butter.

The butter market has apparently recovered a normal condition and the prices are at present high enough to return the producer a good profit if he has the right kind of dairy cattle.

SHOWING AVERAGE MONTHLY PRICE OF EXTRA WESTERN CREAMERY BUTTER IN NEW YORK MARKET.

Month	Twelve months ending Nov. 1, 1900	Twelve months ending Nov. 1, 1901	Twelve months ending Nov. 1, 1902	Twelve months ending Nov. 1, 1903	Twelve months ending Nov. 1, 1904	Twelve months ending Nov. 1, 1905	Twelve months ending Nov. 1, 1906	Twelve months ending Nov. 1, 1907	Twelve months ending Nov. 1, 1908	Twelve months ending Nov. 1, 1909	Twelve months ending Nov. 1, 1910	Twelve months ending Nov. 1, 1911
November	$.2600	$.2487	$.2412	$.2650	$.2317	$.2481	$.2350	$.2762	$.2725	$.2957	$.3095	$.3117
December	.2720	.2540	.2510	.2920	.2423	.2688	.2480	.3164	.2887	.3131	.3490	.2966
January	.2650	.2262	.2425	.2762	.2270	.2910	.2670	.3080	.3069	.3152	.3344	.2639
February	.2500	.2250	.2862	.2600	.2517	.3218	.2709	.3254	.3233	.3009	.2964	.2611
March	.2550	.2212	.2810	.2860	.2452	.2807	.2700	.3061	.2840	.2953	.3263	.2391
April	.1960	.2090	.2825	.2725	.2284	.3008	.2188	.3069	.2855	.2708	.3113	.2111
May	.2012	.1900	.2275	.2200	.2012	.2371	.2017	.2501	.2369	.2658	.2843	.2187
June	.1950	.1925	.2195	.2160	.1803	.2049	.2022	.2360	.2329	.2581	.2792	.2499
July	.1960	.1960	.2131	.2012	.1767	.2056	.2062	.2481	.2243	.2623	.2831	.2510
August	.2100	.2050	.1990	.1940	.1793	.2111	.2257	.2488	.2285	.2719	.2938	.2631
September	.2150	.2110	.2170	.2075	.1947	.2068	.2462	.2781	.2388	.3013	.2989	.2655
October	.2190	.2200	.2362	.2100	.2095	.2184	.2611	.2915	.2673	.3064	.2996	.3044
Average val. per lb. per year	$.2278	$.2165	$.2416	$.2417	$.2140	$.2487	$.2375	$.2826	$.2658	$.2880	$.3054	$.2613

BUTTER OUTPUT.

The amount of butter produced by the creameries of Iowa for the year ending July 1, 1911, shows some increase over the preceeding year. This increase, amounting to 2,783,684 pounds, is a little surprising when we take into consideration the extremely dry summer and the general shortage of feed throughout the state.

We find that quite a number of Iowa creameries have begun the manufacture of ice cream and forty-one plants reported having manufactured approximately 250,000 gallons during the year. This is in addition to the ice cream manufactured by the regular ice cream factories. It is impossible to determine the exact amount of ice cream manufactured throughout the state but the figures we have been able to secure would indicate that the output of butter is materially reduced by the diverting of cream to the manufacture of ice cream.

Much of the butter manufactured during the latter part of the season has shown considerable improvement in quality but a large amount of butter is still going to the markets which is of poor quality by reason of the raw material being received in poor condition.

The figures showing the amount of butter manufactured in each county will very nearly represent the amount produced in the counties throughout the north half of the state. In districts where the centralizing creameries are located, the number of cows reported for each county and the butter manufactured will not give a true idea of the butter industry as much of the cream received by these central plants is shipped a considerable distance and many of the cows reported are in fact owned in adjoining counties.

TABLE NO. II.

TABLE SHOWING NUMBER OF POUNDS OF MILK RECEIVED, NUMBER OF POUNDS OF CREAM RECEIVED, POUNDS OF BUTTER MADE AND POUNDS SOLD TO PATRONS IN IOWA SO FAR AS REPORTED BY THE CREAMERIES.

Counties	Number reporting	Pounds of milk received	Pounds of cream received	Pounds of butter manufactured	Pounds sold to patrons	Pounds sold in Iowa
Adair	4	346,283	2,365,464	822,768	26,285	22,785
Adams	1		383,956	95,989	809	5,934
Allamakee	8		7,779,736	2,049,334	32,550	102,594
Appanoose						
Audubon	8	540,377	2,988,209	1,203,850	57,716	23,093
Benton	6	15,000	1,567,644	553,657	11,576	32,226
Black Hawk	13	28,916,734	5,036,753	2,840,850	146,995	1,051,481
Boone	3	739,003	536,632	239,116	9,828	67,412
Bremer	25	75,132,452	628,709	3,259,593	235,171	140,873
Buchanan	9	21,531,579	1,710,858	1,369,559	110,355	109,808
Buena Vista	3		2,119,887	590,485	4,910	15,117
Butler	15	13,285,488	3,597,594	1,718,427	117,946	57,571
Calhoun	3		1,054,987	366,766	12,768	21,853
Carroll	6	153,084	6,535,536	2,245,966	21,718	41,238
Cass	2	72,000	1,515,239	449,022	3,767	54,748
Cedar	3		706,536	240,948	8,184	138,055
Cerro Gordo	7	1,016,760	4,617,926	1,284,416	14,818	161,138
Cherokee	1		422,964	140,988	2,324	72,000
Chickasaw	12	23,096,039	5,551,203	2,481,548	281,645	89,116
Clarke						
Clay	7	1,379,259	2,897,316	1,100,086	59,468	22,244
Clayton	13	14,586,717	7,424,739	2,835,509	79,089	225,464
Clinton	4	1,299,376	1,843,613	1,375,529	25,192	242,752
Crawford	2		5,044,088	1,691,377		5,444
Dallas	3	190,236	7,114,583	344,821	18,648	156,370
Davis						
Decatur	1		1,954,706	438,676	276	17,400
Delaware	17	32,031,377	5,930,512	3,830,672	213,879	268,440
Des Moines						
Dickinson	4	179,684	1,278,676	426,013	19,809	15,989
Dubuque	16	7,372,533	8,411,783	3,065,002	76,846	332,785
Emmet	5	3,759,795	1,776,546	639,375	49,718	32,326
Fayette	20	45,836,743	5,504,832	3,921,515	289,982	134,577
Floyd	5	14,621	1,922,474	847,116	26,081	246,327
Franklin	4	615,832	3,111,016	897,121	46,578	10,776
Fremont						
Greene	1	186,118	310,688	125,334	2,972	14,197
Grundy	7	4,291,812	2,737,056	1,049,766	53,933	16,921
Guthrie	5	69,760	7,272,924	918,663	30,159	38,161
Hamilton	4	2,054,008	1,333,627	1,115,808	33,255	9,281
Hancock	6		4,207,525	1,295,175	50,323	26,476
Hardin	5	1,149,339	3,229,851	1,117,288	66,600	52,117
Harrison	1	240,000	600,000	240,000	5,000	20,000
Henry						
Howard	7	2,739,546	5,542,196	1,451,771	52,493	14,129
Humboldt	6	597,426	3,041,924	995,198	32,632	12,397
Ida	1		573,255	232,562	562	2,000
Iowa	7	1,569,328	1,896,053	661,702	47,243	9,985
Jackson	9	1,547,518	4,785,373	1,834,957	57,164	89,268
Jasper	2	866,618	499,911	192,511	12,459	18,990

TABLE No. II—CONTINUED.

Counties	Number reporting	Pounds of milk received	Pounds of cream received	Pounds of butter manufactured	Pounds sold to patrons	Pounds sold in Iowa
Jefferson	2		1,080,000	331,000	2,000	46,000
Johnson						
Jones	10	2,523,704	6,411,575	2,032,282	87,310	72,605
Keokuk	1		404,600	115,600		
Kossuth	18	3,607,178	5,591,940	1,899,335	155,126	81,919
Lee	1		3,050,400	943,251		23,000
Linn	7	3,292,162	5,815,111	2,049,105	51,964	465,488
Louisa	1		85,912	24,549	135	5,547
Lucas						
Lyon	3		3,113,337	936,445	500	19,000
Madison						
Mahaska	1		751,800	223,506		
Marion	1	104,580	286,707	99,029		32,249
Marshall	2	738,271	1,195,425	407,520	14,743	76,079
Mills						
Mitchell	8	1,840,000	4,666,045	1,296,512	96,502	30,411
Monona	1		197,943	77,913	476	230
Monroe	1		240,550	72,165	850	32,658
Montgomery						
Muscatine	2	2,568,346	589,440	181,245	1,250	73,550
O'Brien	6	2,600	1,973,219	695,305	20,835	43,932
Osceola	4		1,381,266	462,943	13,666	13,760
Page	1		1,937,685	553,910		77,500
Palo Alto	14	10,121,309	4,144,935	1,693,818	147,172	82,214
Plymouth	5	118,086	1,794,917	643,523	9,776	69,762
Pocahontas	3		827,143	329,871	3,278	10,981
Polk	3	1,095,750	11,820,079	3,649,171	250,000	1,094,000
Pottawattamie	1	1,500,000	3,788,531	1,226,177		
Poweshiek	8	101,530	1,572,989	481,748	10,491	41,336
Ringgold						
Sac	7	37,840	2,120,615	697,888	18,592	21,606
Scott	1	23,474	227,240	69,538	420	30,838
Shelby	6		1,595,305	574,403	17,114	13,569
Sioux	7	1,500	3,589,059	1,338,194	36,852	29,927
Story	8	2,420,728	2,593,024	968,637	114,172	101,990
Tama	2	14,700	377,823	130,088	1,600	11,929
Taylor	1		3,158,840	789,710	12,050	32,353
Union	2	31,810	2,033,355	676,460	892	114,904
Van Buren						
Wapello	1		1,834,164	611,388		405,148
Warren						
Washington						
Wayne	1		1,889,542	670,217	34,172	
Webster	1		2,885,201	858,341	500	82,000
Winnebago	6	15,368,683	3,107,110	1,639,982	113,152	25,168
Winneshiek	11		5,835,455	2,309,410	24,940	53,939
Woodbury	3	1,716,000	19,907,019	7,731,101	6,954	566,932
Worth	9	1,479,873	4,171,349	1,326,642	56,948	22,385
Wright	6		4,814,002	1,280,833	29,615	103,209
Total	469	336,130,569	266,878,356	96,695,584	3,789,217	8,481,940

TABLE NO. III.

TABLE SHOWING NUMBER OF HAND SEPARATORS, NUMBER OF PATRONS AND NUMBER OF COWS.

Counties	No. of creameries reporting hand separators	Receive cream by rail	Hand separators reported	No. of creameries reporting patrons and cows	No. of patrons reported	No. of cows reported
Adair	4		1,027	4	1,051	1,589
Adams	1		1	1	176	1,232
Allamakee	8		1,692	8	1,850	14,491
Appanoose						
Audubon	8		1,185	8	1,190	9,675
Benton	6		830	6	844	6,496
Black Hawk	13		5,894	13	8,713	63,074
Boone	3		279	3	309	2,198
Bremer	4		223	26	1,867	19,253
Buchanan	8		512	9	1,167	8,559
Buena Vista	3		842	3	852	6,211
Butler	12		1,029	15	1,698	11,478
Calhoun	3		449	3	449	3,759
Carroll	6		3,788	6	3,898	22,560
Cass	2		1,007	2	1,017	6,589
Cedar	3		290	3	298	1,690
Cerro Gordo	7		1,279	7	1,313	9,095
Cherokee	1		128	1	142	850
Chickasaw	10		1,086	12	2,060	17,830
Clarke						
Clay	8		996	8	1,078	7,942
Clayton	12		2,224	13	2,737	20,481
Clinton	4		1,205	4	1,258	8,295
Crawford	2		2,315	2	2,315	16,645
Dallas	2		580	3	894	6,150
Davis						
Decatur	1		141	1	141	987
Delaware	14		1,424	17	2,886	21,786
Des Moines						
Dickinson	4		384	4	390	2,978
Dubuque	14		1,964	16	2,370	18,194
Emmet	5		373	5	454	4,163
Fayette	13		1,440	20	2,781	23,958
Floyd	5		659	5	981	8,239
Franklin	4		650	4	680	5,377
Fremont						
Greene	1		188	1	191	1,337
Grundy	7		677	7	792	6,571
Guthrie	5		927	5	998	6,993
Hamilton	4		714	4	790	4,548
Hancock	6		1,122	6	1,128	9,355
Hardin	5		927	5	1,001	7,275
Harrison	1		400	1	600	4,320
Henry						
Howard	7		1,125	7	1,413	13,060
Humboldt	6		1,336	6	1,368	10,206
Ida	1		285	1	285	1,850
Iowa	7		738	7	785	5,502
Jackson	9		1,457	9	1,526	11,995
Jasper	2		235	2	297	1,800

TABLE NO. III—CONTINUED.

Counties	No. of creameries reporting hand separators	Receive cream by mail	Hand separators reported	No. of creameries reporting patrons and cows	No. of patrons reported	No. of cows reported
Jefferson	2		350	2	375	2,450
Johnson						
Jones	10		1,908	10	1,975	16,009
Keokuk	1		125	1	125	950
Kossuth	18		1,351	18	1,545	12,158
Lee	1		1,400	1	1,400	7,200
Linn	7		3,211	7	3,963	17,500
Louisa	1		59	1	59	413
Lucas						
Lyon	3		1,077	3	1,117	8,427
Madison						
Mahaska	1		160	1	160	1,117
Marion	1		285	1	425	2,125
Marshall	2		450	2	540	2,325
Mills						
Mitchell	8		950	8	1,508	11,939
Monona	1		105	1	105	700
Monroe	1		142	1	277	1,300
Montgomery						
Muscatine	2		180	2	233	1,720
O'Brien	6		848	6	911	7,285
Osceola	4		483	4	483	3,338
Page	1		416	1	416	3,000
Palo Alto	14		1,058	14	1,400	11,309
Plymouth	5		705	5	712	5,549
Pocahontas	3		356	3	358	2,072
Polk	3		6,250	3	6,650	39,400
Pottawattamie	1		175	1	250	1,750
Poweshiek	7		539	7	608	4,188
Ringgold						
Sac	7		862	7	892	4,962
Scott	1		120	1	136	950
Shelby	6		1,023	6	1,023	5,270
Sioux	7		1,845	7	1,843	11,798
Story	8		996	8	1,078	6,638
Tama	2		205	2	205	1,100
Taylor	1		1,325	1	1,325	9,275
Union	2		824	2	824	4,840
Van Buren						
Wapello	1		1,460	1	1,460	7,300
Warren						
Washington						
Wayne	1		1,700	1	1,700	8,500
Webster	1		1,000	1	1,000	6,250
Winnebago	6		855	6	1,245	9,804
Winneshiek	11		1,937	11	2,312	16,460
Woodbury	3		8,632	3	9,042	54,190
Worth	9		980	9	1,030	9,015
Wright	6		1,162	6	1,176	8,670
Total	426		93,536	468	110,918	765,882

PART X

PAPERS ON LIVE STOCK, AGRICULTURAL AND MISCELLANEOUS TOPICS

FROM

BULLETINS, AGRICULTURAL PRESS

AND

Papers Read Before County Farmers Institutes

PLANNING AND ADORNING THE FARMSTEAD.

BY A. T. ERWIN.

Iowa Agricultural Experiment Station, Iowa State College of Agriculture.

Neat, conveniently arranged buildings, a well-kept lawn attractvely bordered with trees and shrubs add greatly to the appearance and value of the farm and to the happiness of its occupants.

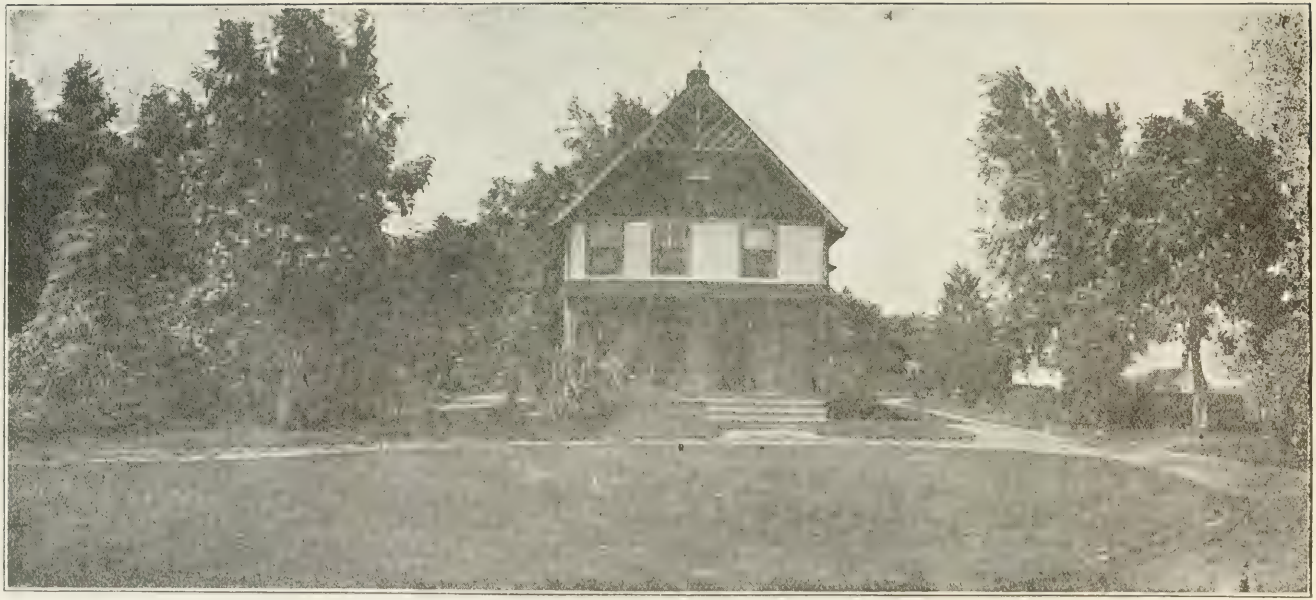
The farmstead, including as it does the general area occupied by the farm buildings, house and lawn, is the center of activity for the farm. Its planning and development, both from the standpoint of convenience and of securing an attractive landscape effect, deserve special consideration.

A well-thought-out plan is the first requisite to get these results, as in the absence of a definite scheme serious mistakes are likely to be made. This plan should include the location of buildings, drives, walks, trees, shrubbery, and every other feature which contrbutes either to the convenience or ornamentation of the place. It should be developed with the larger relationships always in mind. The location of the house and farm buildngs is the first consideration. Even though it happens that some or all of these are already on the ground, a plan for their location is important. New farm homes are erected to supplant old ones and other new farm structures are added, which make practicable a general consideration of the entire building scheme. Material improvement can often be made in a farmstead by a readjustment as new buildings are put up, though the best results are obtained where things are planned right from the start.

In selecting a site for the house, good drainage is the first requisite. A south or east slope is generally to be preferred while a north slope is undesirable. In its location give the house greatest prominence. The farmstead first of all provides a home and the residence should stand out as the central and most conspicuous feature of the picture. To place the barn and other buildings in front of the house is to reverse the logical order of things. Locate the house back far enough from the high way to afford privacy and give a good stretch of lawn in front, and yet not so far back as to suggest a spirit of exclusion, nor with a lawn so large that it cannot be properly cared for. Most city dooryards are too small while many of those in the country are so large that it is impracticable to give them lawn treatment.

An Attractive Entrance Way to the Farmstead

The location and grouping of the general farm buildings is a perplexing problem and each place presents its own peculiar conditions and difficulties. The most common mistakes occur in the location of buildings as to convenience. The corn crib should be located near the particular feeding-place that will call for the bulk of its supply and the toolshed where the implements can be taken up or dropped enroute to or from the field. In this connection the importance of providing enough shed room for the tools and general equipment needs emphasis. The promiscuous scattering of machinery about the barnyard always gives a place an air of carelessness and neglect and detracts much from its appearance, while the weathering of the machinery causes a serious



A Good Illustration of what can be Accomplished in a Few Years.

This home was established some twenty years ago on the bare, bleak prairies of northern Iowa. With a little care and planning the surroundings have been made beautiful and attractive. There is a goodly list of varieties of trees, shrubs and vines that succeed in this section. The problem is one of intelligent interest and initiative on the part of the owner.

economic loss. The watering-trough and workshop call for a central location.

The general farm buildings should be to the rear of the farmhouse and the stable at least 150 or 200 feet away. Locate them to avoid odors being carried to the house by the summer winds. So far as practicable, arrange the farm buildings to serve as a windbreak. Locate the yards on the side farthest from the house, though it is often an advantage to provide a paddock near the highway for the display of the farm herds.

The business side of the farm must not be lost sight of and special features of the general building equipment may be given prominence, such as the seedhouse or any other important feature of the place. In landscapng the farmstead it is not the idea to obscure their presence but rather to secure an orderly arrangement of the buildings and to have the front side to the front and the back side to the rear.

The Barn in Front of the House—an Illogical Arrangement.

DRIVES, WALKS AND GATEWAYS.

The main driveway should enter from the direction of the heaviest traffic. As suggested in the accompanying plan, it may be desirable to provide two drives, one leading directly to the barnyard for the heavy traffic and the other to serve the house, with a return loop for visitors. In locating drives, attention should be given to the matter of grades. Steep grades are objectionable and should be avoided whenever possible. It is often practicable to do this by following around the hill, thereby securing not only an easy grade but also a long, sweeping curve which will make a more attractive drive.

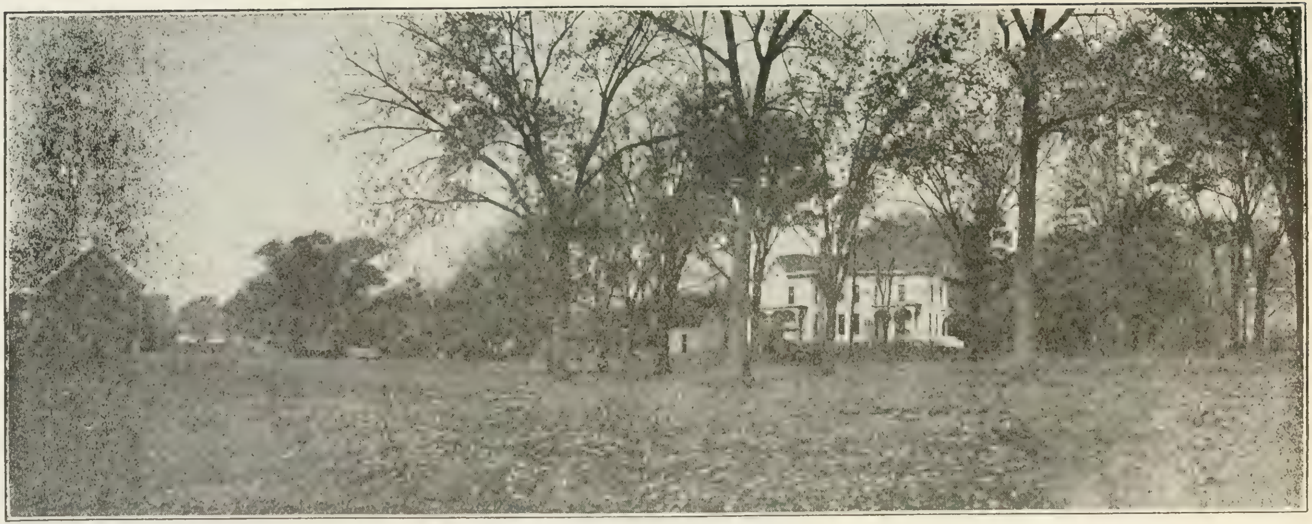
Massive concrete posts of a neat design may be appropriately used to mark in a formal way the entrance to the farmstead. Here also is a good location for the bulletin board, giving the name of the place, the proprietor, and other information. Every farm should have a name. It gives to the place a dignity and individuality that is otherwise lacking. Iowa now has a law permittng the registration of farm names and affording legal protection therefor. Keep all other signs off. The use of farm buildings as bill boards for the advertising of tobacco, etc., is cheapening. It not only detracts from the looks of a place but is an illogical thing to do. The owner should work up a reputation for his own goods and advertise his own products in an appropriate way.

"Tidiness, like everything else worth having, comes only by effort, but it is worth all it costs, with a nice margin of profit."

Since the majority of the country people ride rather than walk, there is little demand for front walks, which are wholly a matter of convenience rather than beauty. When built, they should lead in the direction people desire to go. Long, circuitous routes around a semi-circle are unnatural and do not represent good planning. It has been suggested that the best way to locate a walk is to find out where people want to go by first permitting them to form a path and take that as a location. This does not mean, however, that walks must always be in straight lines. Often a gentle curve can be introduced so as not to be objectionable from the standpoint of distance and to give a pleasing landscape effect. In such instances it may be desirable to plant a tree or clump of shrubs on the inside of the curve to give an apparent reason for the deviation.

A Rear View, Showing a Good Equipment of Farm Buildings.

The appearance of this farmstead is much improved by the neat and tidy condition of things surrounding the buildings. Everything seems to have its place, and there is a suggestion that everything is in its place. Note the covered farm scales with their suggestion of business management on this farm.

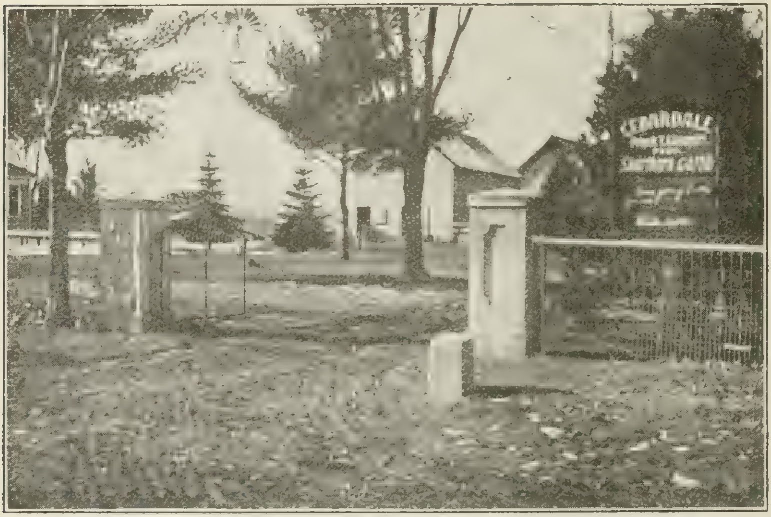


Rural Life as it Can Be in Iowa.

This place is planted very largely to native trees and shrubs. In selecting varieties for planting it is well to give special attention to hardiness and freedom from insect and fungous troubles. Our native trees and shrubs have much to commend them in this regard. The scarlet oak, the hackberry and the hard maple are unequalled for Iowa planting. The white elm shown above is the finest of shade trees for this section.

THE PLANTING OF TREES.

As one of the larger features of the landscape, the location and number of trees are of special importance. In selecting kinds, the size of tree at maturity should be considered. The white elm, for example, may attain a spread of one hundred feet, while the green ash or white birch will hardly exceed one-fourth of that. Do not overplant the lawn. By filling up the front yard the landscape effect is not only destroyed but the buildings are obscured or entirely hidden. From the sanitary point of view this is also undesirable for it encourages dampness. Keep the trees back far enough to permit a free circulation of air and plenty of sunshine. Overshadowing is bad for a building and under these conditions the shingles decay quickly. As a protection against the afternoon sun, a shade tree or two to the southwest of the house is desrable.

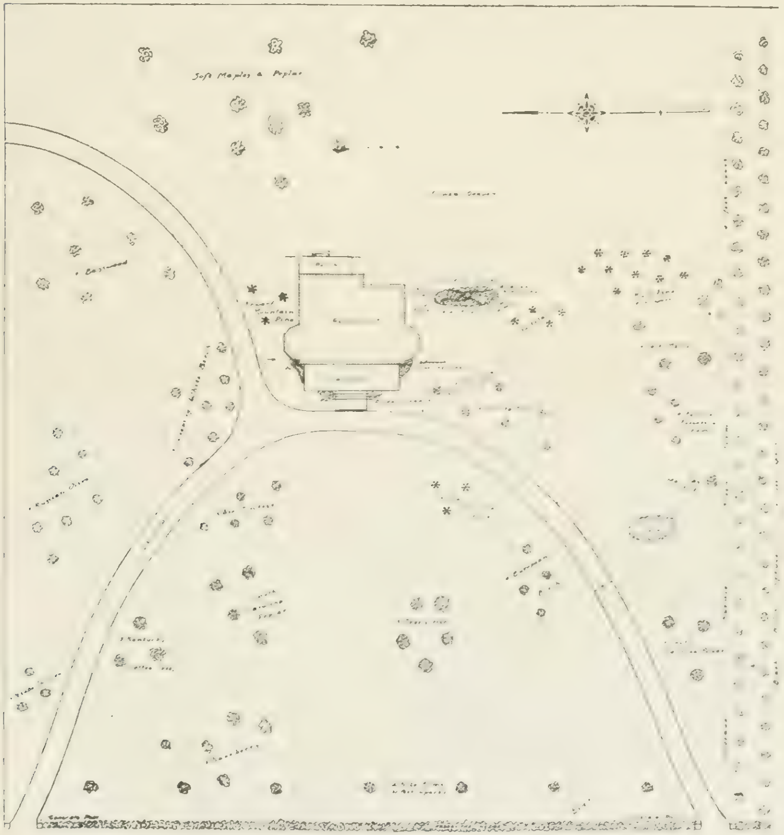


The Bulletin Board Serves a Useful Purpose.

In general, plant along the sides to border or frame in the picture. I this way a vista is formed with the house as the central feature. Most people err in getting things into the wrong location rather than in the selection of varieties to plant. Keep an open front. Immedately in front of the house there is nothing so appropriate as a well-kept stretch of greensward. Keep the tree planting mostly along the sides and in placing them avoid a stiff, mechanical arrangement. If an evergreen is located so many feet from the walk on one side, do not place another one at a corresponding distance on the other side. Avoid a stiff checker board plan and plant the trees more in clumps, securing the effect of a curve rather than a straight line, so that the whole will be as natural as possible. A limited number of tall trees to the rear of the house is useful for a background and the pictorial effect thus secured is a vast improvement over that of the building whch stands out against a bare sky-line.

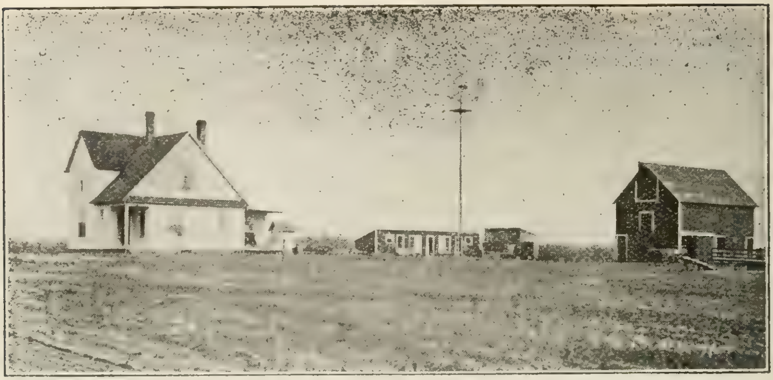
LOCATING SHRUBBERY.

One of the most common mistakes in planting shrubbery is to scatter it about over the lawn in a salt and pepper fashion. The way to secure a satisfactory effect is by grouping. Place shrubs in a mass about the border, particularly to screen off the back yard from the front, and in the corners about the porch or along the base of the building. Plant them about two and one-half feet apart, placing the taller kinds, such as the bush honey-suckle and lilac, in the back, with the lower kinds. such as the bridal wreath, in front. The shrubs sould be cultivated or mulched for the first year or two after planting, after which they become sufficiently established to shade the ground and take care of themselves.



Good Example of a Planting Plan.

It shows the location of every group of shrubs and every tree, their names and number required. This drawing is on a scale of about eighty feet to the inch.



Good Buildings, but Lacking in the Shade and Adornment of Trees.

If flowers are grown primarily for cut flowers, line them out in a straight row in the garden where they can be cultivated conveniently. For ornamental beds, place them in a border two and one-half or three feet in width along the front of the shrubbery. Here the shrubbery serves as a background against which the colors stand out much better than they will in the open. Moreover, this location avoids cutting the lawn with beds which make unsightly holes during the winter.

PLANTING LIST.

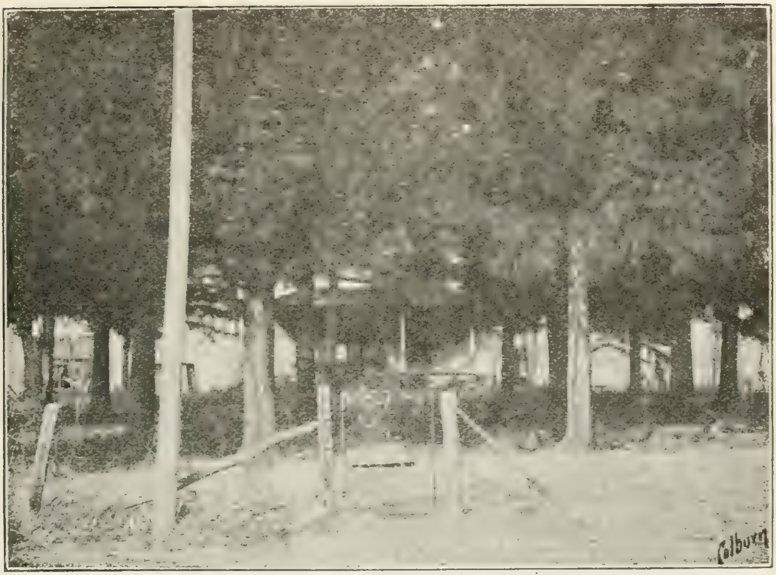
The followng is offered as a selected list of trees and shrubs for the Iowa planter. Only reputable and well established varieties of known hardiness are named. The list is not complete and is meant only to be suggestive. Many of our native trees and shrubs deserve special mention in this connection as they are not only hardy and comparatively free from insect and fungous pests but also have good decorative qualities, as attested by the fact that they command a ready price in the nurseries in the regions to which they are not native. It is further suggested in making up the list of shrubbery that attention be given to the matter of the succession of bloom periods. The Juneberry blossoms very early in the spring, for example, other varieties in late spring, midsummer, and so on. In this way something attractive can be had in flower throughout the open season.

SHADE TREES.

Much of the early tree planting in Iowa was of quick growing and short-lived types such as the box elder and soft maple. Future plantings should be on a more permanent basis and of a better class of trees such as the white elm and oaks.

White elm,
Hard maple,
Soft maple,
Black cherry,

Baswood,
Ohio buckeye,
Green ash,
Red oak,



An Over-planted Yard.

Scarlet oak,
European birch,
Hackberry,
Carolina poplar,
Niobe willow,
Golden willow,
Russian olive.

EVERGREENS.

Douglas spruce,
Norway spruce,
European larch,
Silver fir,
Red cedar,
White spruce,
White pine,
Austrian pine,
Dwarf mountain pine,
Scotch pine,
Blue spruce.

SHRUBS.

High bush cranberry,
Snowball,
Juneberry,
Bush Honey-suckle,
Siberian dogwood,
Mock Orange,
Bridal wreath,
Nine-bark,
Japanese lilac,
French lilac.

ORNAMENTAL AND HEDGE PLANTS.

Hawthorn,
Buckthorn,
Polish pivet,
Armour barberry,
Dwarf barberry,
Common barberry,
Purple-leaf barberry.

VINES.

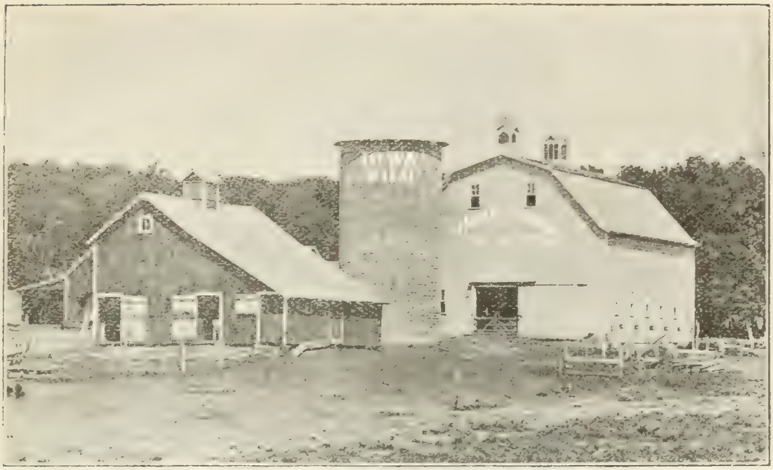
- Clematis jackmanii,
- Clematis paniculata,
- Trumpet honey-suckle,
- Boston ivy,
- Engelman ivy,
- Bitter sweet.

TRIMMING TREES.

The climate of our state is more or less severe upon tree life of all kinds. Trees are frequently injured by the splitting down of the branches due to sleet-storms and severe winds. This condition requires pruning to insure the proper healing over of the wound, otherwise decay enters in and the life of the tree may be seriously shortened. In removing injured branches, particular pains should be taken to make the cut up close to the remaining branch and parallel to it. Under these conditions the wound is nourished and gradually heals over. Healing does not take place where a stub is left and decay gradually works down into the main stem. For cuts over two inches in diameter the surface should be coated with thick white lead.

In this connection the practice of topping back large trees, such as the soft maple, should be discouraged. This can in no manner change a soft-wooded tree to a hard-wooded kind and in the majority of instances the central portion of the large stub dies back and decays, leaving only a shell of live bark around the circumference, and in a few years the tree goes to pieces and is ready for the brush-pile. It must also be remembered that the leaf system takes part in the work of digestion and that a large tree entirely defoliated in this fashion has been treated in a very severe manner.

Plant Shrubbery in Clumps; do not Scatter Single Specimens over the Yard



A Good Windbreak Contributes Both Comfort and Beauty.

LAWN MAKING.

The first requisite in securing a good lawn is a rich black loam. It frequently happens that in excavating for the basement the clay soil is disposed of by spreading it over the front yard, thus leaving a very unsatisfactory soil for the lawn. Where this is done the top soil should first be taken off to a depth of 5 or 6 inches and replaced after the clay has been deposited. Similarly in back-filling around the foundation, debris of all kinds is dumped in. This is apt to cause trouble later in settling and also makes a very unsatisfactory soil with which to establish either grass or shrubs.

Grade the lawn first and then thoroughly pulverize the soil for seeding. In Iowa the best time to seed is early in the spring, though in many seasons a very good stand can be secured by sowing the seed about the middle of August or just preceding the fall rains. Fall seeding, however, is more or less uncertain on account of the lack of moisture supply. In the case of fall seeding, it is advisable to mulch the lawn the first winter with strawy manure as soon as the ground is frozen hard enough to bear up a team. This should be raked off in the spring when the growth begins. The best turf is that formed by Kentucky bluegrass. The Canada bluegrass is sometimes used but this is not as good. Sow the seed rather thickly; say at the rate of four bushels per acre. Exercise care to get an even distributon of the seed in sowng and it is often advisable to re-seed at right angles to the first sowing in order to secure this.

For the purpose of securing immediate effect the plan is often followed of mixing with the blue grass the English or Italian rye-grass. This greens up at once and makes a very good temporary turf. Since it is only temporary in character, it gradually dies out, leaving the blue grass in possession. In using the English ryegrass the proportion commonly followed is that of three bushels of bluegrass to one bushel of ryegrass. A slight sprinkle of white clover is sometimes added as a temporary turf. Many follow the practice of sowing oats or rye with bluegrass. This in our opinion, is not advisable. Both of these plants make a coarse stubble unsuited for the lawn and they are gross feeders. Instead of being a nurse crop they rob the grass of its moisture and food supply and also shade it too much.

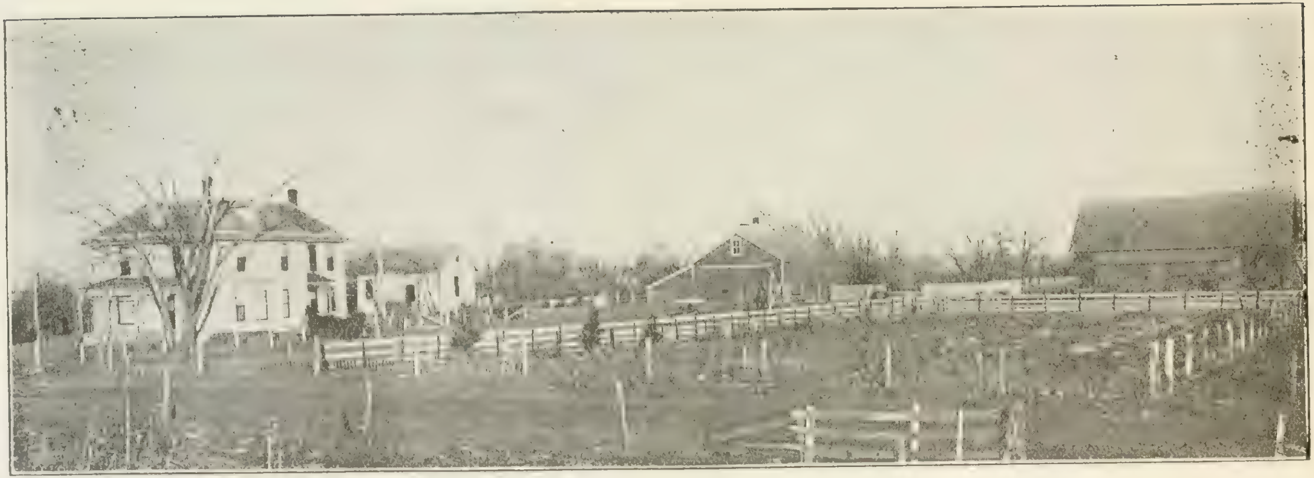
MOWING THE LAWN.

Begin mowing just as soon as the grass is tall enough as this cutting causes the plant to bunch and stool-out, thus securing thicker turf. Set the lawn mower high, however; in fact, close cutting is not advisable in any case. Stop the mowing in time in the autumn to let the grass make a good top growth for winter protection.

On the newly established lawn there is apt to be trouble with weeds of many kinds. Most of the coarser weeds will not stand close cutting and are killed out the first year by the use of the lawn mower. There are a few, however, including the dandelion, which are not affected in this way. For the eradication of these, iron sulphate has been recommended, but its value for this purpose seems quite doubtful.

In applying manure to the lawn take care to secure material as free as possible from weed seed. Nitrate of soda is often preferable for fertilizing because it is free from impurties. Use this at the rate of 200 pounds per acre and apply it at the beginning of the growing season.

Rolling is a good practice for the lawn as it closes the cracks early in the spring and also shoves the crowns of the plant back into place, thus correcting the heaving which has taken place during late winter.



An Attractive Farmstead.

This farmstead has many features to commend it and it gives the impression of being thoroughly practical in its arrangement. Particular attention is directed to the location of the milk house, shop and barn. Perhaps the latter is a little too far from the house. The disposition very often is to locate the barn too far from the house for sanitary reasons. If heed is given the drainage, prevailing wind direction and such things, the barns need not be so far removed. The farm garden is well located in a convenient place and where it is quite sure to receive the attention it deserves.

PLANNING THE FARM IN RELATION TO THE FARMSTEAD.

BY J. B. DAVIDSON.

Department of Agricultural Engineering, Iowa State College of Agriculture.

An investigation of the loss of time and energy upon Iowa farms on account of an inconvenient arrangement of the fields, roads and buildings, indicates that farm planning should be given much greater consideration than it now receives. An inconvenient placing of the feed room, for example, in reference to the barns and the house, may mean only a few hundred extra feet of travel or a few extra minutes every day in caring for the live stock of the farm, but the accumulated loss for a year or number of years becomes enormous. For instance, the walking of three hundred feet twice a day amounts to over forty miles a year and in like manner fifteen extra minutes twice a day amounts to over eighteen days, or ten hours each, per year.

A good way to plan the arrangement of the farm, including the location of the various farm buildings, roads to the field, etc., is to prepare a sketch or map upon which the routes may be traced which must be followed in doing the day's work, including the morning and evening chores and a trip to town or other places of traffic. The accompanying sketch shows such routes and attention is called to the convenience secured. It is true that upon most farms the fields and buldings are already located, yet adjustments are made from time to time and these should be made according to well-thought-out plans in order that the general arrangement may improve rather than grow less convenient. To assist in laying out the farm and planning the farmstead, the following general considerations are suggested. Perhaps it will not be possible to incorporate all of these principles in any one plan, yet they represent advantages which should be secured if possible, though it is realized that each farm is a problem in itself.

1. Have the fields as nearly the same size as possible in order facilitate crop rotation.

2. Have as many fields as possible in direct connection with the barn lot.

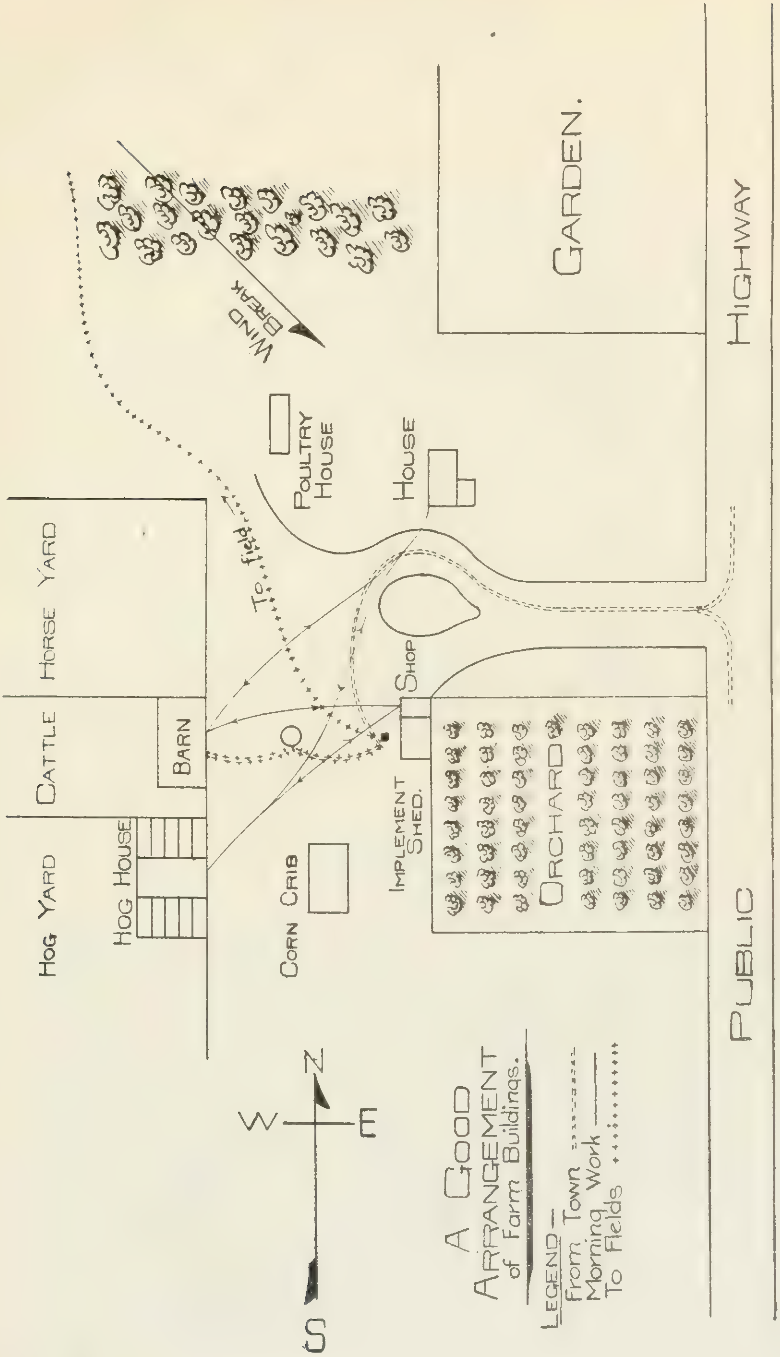
3. Size of fields should be in proportion to size of entire farm.

4. Land of the same quality should be in the same inclosure.

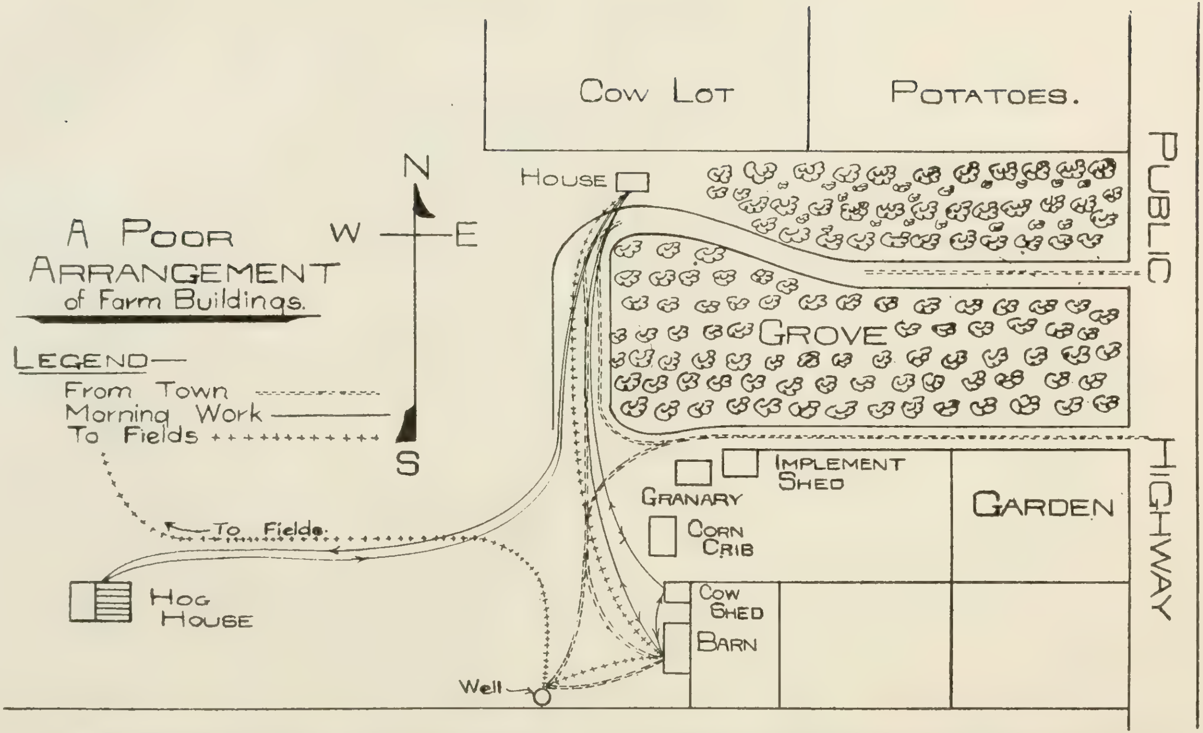
5. Where there are streams on the farm, arrange the fields to border on them so as not to interfere with cultivation and to be more convenient for watering stock or irrigation.

6. Avoid needless fences on account of cost and maintenance.

7. Have the buildings near the center of the farm, giving due consideration to other advantages.


A Good Arrangement of Farm Buildings.
Legend—
From Town
Morning Work
To Fields
N
S
E
W
Hog Yard
Hog House
Cattle
Barn
Horse Yard
Corn Crib
Implement Shed.
Shop
Orchard
Poultry House
House
To field
Wind Break
Garden.
Public Highway

An actual farmstead plan which exemplifies the principles of good arrangement.


A POOR ARRANGEMENT of Farm Buildings.
LEGEND—
From Town
Morning Work
To Fields
N
S
E
W
COW LOT
POTATOES.
PUBLIC HIGHWAY
HOUSE
GROVE
IMPLEMENT SHED
GRANARY
CORN CRIB
GARDEN
COW SHED
BARN
Well
To Fields
HOG HOUSE

An actual farmstead plan which is obviously inconvenient. Note the waste ground and the excessive travel required to care for the stock.

8. A pasture should be adjacent to the buildings.

9. Buildings should occupy poorest ground.

10. Buildings should be located in reference to water supply.

11. Buildings should be on a slight elevation whenever possible.

12. A south or east slope is desired.

13. Soil for buildings should be dry and well drained.

14. A timber windbreak should be secured.

15. A garden plot should be near house.

16. Buildings should not be located on high hills because inaccessible from field or roads.

17. Buildings should not be placed in low valleys on account of lack of air and drainage and danger of frost.

18. Buildings should be located on the side of the farm nearest the school, church and town.

19. Lots should be on the farther side of barn from house and screened from the house by trees.

20. All buildings should serve as windbreaks.

21. A farm scale is useful and should be placed in a convenient place.

22. The shop and machine shed should be convenient to house, barn and fields.

GOOD ROADS A FARM ASSET.

J. F. MERRY, MANCHESTER, IOWA.

Before the Delaware County Farmers' Institute.

Municipal incorporations have the authority to pave streets and tax up the expense to abutting property owners. No one, however, is authorized to construct permanent public highways and tax the expense of same to the abutting farm owners. Under our system in this county a tax of one mill is levied for the maintenance of old and two mills for the construction of new roads. This tax for 1912 amounts in round numbers to $17,500.00. We have within the county about one thousand miles of country roads. The above tax gives us an average of $17.50 per mile for new roads and the maintenance of old ones. More than sixty years ago the law makers of Iowa provided that the public roads of the state should be sixty-six feet and not less than forty feet wide. Later the law was so amended as by common consent they may now be but thirty feet. This legislation simply gave us legal space for public highways sixty-six, forty or thirty feet wide. We still have the space, but what about the roads? Is it not a fact that they are little more than lanes between barbed wire fences and we are climbing the same sand hills and driving through or around the same mud holes that we did ten, twenty, possibly thirty years ago, and is it not true that we have come to regard as fairly good any driveway over which we can drive an ordinary load without getting stalled?

The good roads question is now a live issue throughout the United States. November 14-17 the American Road Builders Association held its eighth annual convention at Rochester, New York. The American Good Roads Congress held its annual meeting at the same time and place. Addresses were made at these meetings by the most competent engineers and practical road builders in the country. Every phase of road making was fully discussed. Gravel, chert and sand clay material had their advocates. Drainage, bridges and culverts claimed their full share of attention. Indeed, the problem of substantial and economical road construction was intelligently discussed. At Richmond, Virgnia, only a few days later the American Association for Highway Improvement met and was addressed by noted American and Canadian engineers. Certain congressmen are (to my mind foolishly) recommending federal aid for public highways. State agricultural fairs, farmers' conventions and farmers' institutes are giving the subject prominence, and the results are sure to give us sooner or later better country roads. I am glad to note so many of our Delaware county ladies are manifesting an interest in this question. Surely the pleasure and comfort of good roads will be appreciated by none so much as the ladies. Frequently in summer I return from the farm between the hours of four and five; almost invariably I meet a half dozen or more rigs with children from the country returning home from Manchester schools. Will not the mothers of these children be greatly relieved when the possibility of accident to these children, that is always incident to poor roads and poor bridges, is entirely removed? I am sure such will be the case. And as the construction of perfect highways in Iowa will depend upon the combined efforts and co-operation of us all, we most heartily urge that our ladies discuss this great question in their clubs and be prepared to advise their indifferent husbands as to their views of the good roads question.

And now I want, if possible, to convince this audience that perfect country roads are a valuable farm asset. During the coming season many of our Delaware county farmers will enlarge the old or build new homes; some will build new barns; others will lay several rods of tile; still others will repaint a part or all of the buildings on the place. Will any sane farmer contend for a moment that the expense of such improvement should not be charged up to the farm? Is there any other way by which he may know what his farm has cost him? If the improvements on a one hundred and sixty acre farm has been $800.00 he added $5.00 per acre to the cost of the farm. If $1,600.00 is the amount expended, then he has added $10.00 per acre to the actual cost of the farm. If this method is correct (and I hardly think anyone will question it) then is it not possible that a perfect public highway running by a man's farm may be such an improvement as to add to the selling value of the farm, and if so, why should it not be considered an asset as much as the other improvements? Let me give a simple illustration. Two one hundred and sixty acre farmers are neighbors with a half mile of road separating their farms. One of them makes a journey across the sea and on his return he talks of little else than the splendid country roads throughout Europe. He soon has enthused his neighbor and together they agree to construct a perfect macadam half mile road between their farms. They get permission from the road authorities and engage a road engineer who has had years of experience in macadam road construction. They cite him to roads in Belgium as approximately the character of road they want. It must be thirty feet wide, the drainage on both sides must be absolutely perfect, the culvert and the small bridge must be of the best concrete the full width of the road with four foot guards at each end, all grades must be reduced to the minimum, and a sufficient amount of the best crushed rock available shall be used to make when finished a perfect highway. It is a beauty; road makers for miles around come to inspect it. Everyone enjoys driving over it and the two farmers are hilarious over it. When the bills are all in the entire cost of this half mile of a perfect country road, that will cost but little to maintain, is found to be $1,600.00. They draw their checks for $800.00 each, entirely satisfied with their experiment. Are there any real estate men in this audience? If so, will you please tell us how much per acre would be added to the selling value of these farms as the direct result of this complete and perfect half mile of country road?

The amount of money to be used in this county this year will be on the average of $5.75 per half mile. Possibly some one inquires, would you recommend that such roadways be built by private contributions? No, indeed, I simply used this illustration to prove that such highways would add to the selling value of these farms and because this should be considered as much a real asset as the other improvements referred to. President Taft only recently expressed his opposition to the suggestions that the federal government should make large appropriations for public roads. I think he was right. My theory is that the states and the counties should make such appropriations as are necessary to give, not *paved* roads, but splendid country highways. In many localities good roads bonds are being issued by counties, recently

Baltimore county, Md., voted a bond issue of $1,500,000 for good roads.
Oklahoma county, Okla., voted a bond issue of $1,250,000 for good roads.
Tarrant county, Texas, voted a bond issue of $1,000,000 for good roads.
Brown county, Texas, voted a bond issue of $500,000 for good roads.
Cullam county, Ala., voted a bond issue of $350,000 for good roads.
Wharton county, Texas, voted a bond issue of $300,000 for good roads.
Laurens county, Ga., voted a bond issue of $300,000 for good roads.
Monroe county, Ga., voted a bond issue of $300,000 for good roads.
Meckleburg county, Va., voted a bond issue of $240,000 for good roads.
Sullivan county, Tenn., voted a bond issue of $200,000 for good roads.

Delaware county, Iowa, as already stated, will have a road tax for 1912 of $17,500.00; what a farce. But, my farmer friends, our wholly inadequate system of road construction in Iowa will not be improved until the 250,000 or more farmers in Iowa are made to realize that money voted for good roads is not in any sense a donation. It is for *permanent improvements* and should be considered as such. In all of our large cities wholesalers and retailers use motor trucks instead of wagons to distribute every kind of merchandise. In some portions of New York state, Ohio and northern Illinois, a number of farmers club together, purchase a motor truck and on market day instead of a dozen men and teams going to market, one man and his motor truck gathers up the butter, eggs, poultry, vegetables and fruits, and the other eleven men and as many teams are in the field. Each farmer gives the motor man a list of what is wanted from town and on his return the supplies are distributed. If we estimate a man and team at $3.00 per day, $33.00 is saved that neighborhood every market day. When the farm roads of Delaware county are what they should be, our milk haulers in summer will not be out all day in the sun and show up at the creamery with a load of sour milk. They will bring into use the inexpensive motor truck and within three hours he will have gathered the milk, deposited it at the creamery and be back in his field at work.

But I fancy someone having in mind the illustration of the half mile of road constructed by the two farmers would like to know if $1,600.00 per half mile, or $3,200.00 per mile, will cover the expense of such a road as I have described. I confess that I do not know, I am not an engineer, but I judge it would be done for much less than $3,200.00 per mile as we are only allowed now $17.50 per mile, or $3,182.50 less than $3,200.00. Whatever may be the cost of construction, I confidently believe the boys and young men of this audience will live to see the day when Iowa public roads will be approximately as good as I have described; and when they are, farm lands in Iowa will be sought after at $200.00 to $500.00 per acre. Hon. Sidney Foster, of Des Moines, once said, "Of all that's good, Iowa affords the best." He could and should have made one notable exception. Our country roads are a positive disgrace to the state. The last week in October the Alabama Good Roads Association met at Selma. Every county was represented with an unusual attendance and a resolution unanimously passed calling upon the next legislature to authorize a state bond issue of $50,000,000.00 for use in the construction of country roads in every county of the state. This is a large amount of money, but if these bonds are negotiated at a low rate of interest running from twenty to fifty years, and the money wisely and economically expended, it will more than quadruple the selling value of farm lands in Alabama before these bonds mature. I cannot believe Iowa will much longer lag behind other states and be satisfied with the cheapest kind of dirt roads. A state so rich in its resources and settled up by so wealthy and intelligent a yeomanry will soon adopt some system of road building, no matter what the cost may be, that will give our farmers country roads that will reduce the expense of transportation to the minimum and make getting about the country a pleasure rather than a real trial.

Two years ago I had occasion to make inquiry as to the highways in Belgium. I found they were more permanent and quite as smooth as our city pavements. I also was quite interested to learn that farm land no better than ours was valued at from $500.00 to $1,500.00 per acre, and very little of it for sale. When Iowa has a net work of perfect highways, then no state in the union will excell us in the price of our farm lands. These desirable conditions will obtain just as soon as Iowa farmers are convinced that good roads are a farm asset. I am not so foolish as to expect that you will all agree with me as to the practicability of constructing permanent public roads in Iowa. It will require time and study, perhaps, before you are convinced of the necessity for such roads and of their intrinsic value in adding to the sum of your possessions. If your farm now worth $30,000.00 can be increased to $50,000.00 by the construction of permanent roads adjacent thereto at an expense of not to exceed $6,000.00, it should be considered a legitimate and profitable investment. All I can hope to accomplish in this address is that you will consider and study the matter from the viewpoint of good roads being a farm asset.

FACTORS IN THE LIFE OF FARM GIRLS.

MARGARET C. ANDERSON.

(In The Breeder's Gazette.)

Rural parents are failing to realize the child-nurturing possibilities of their background. The picture of the boy or girl on the farm crushed by the monotony and drudgery of enforced labor or—just as bad—starving for the sympathy and interest and mental stimulus that are commonly denied, is not a pleasant one to study. We look with horror upon crimes far less destrictive and heart-breaking than this crime—of well, let us call it sluggishness. But there is a big work being done in behalf of farm boys and girls which opens up, particularly to the farm mother, glorious new visions of some specific ways in which country life may be made yield its best, to justify itself, to the growing, outreaching, eager boy and girl. In the first place, let the farmer get rid of the idea that he must move to town "to educate his children." That idea is fraught with tragedy in many instances. The back-to-the-country movement has no more vital significance than in its relation to the young farm people who so often, on leaving home, sacrifice the chance of becoming potential units in order to become futile atoms in the great whirl of city life. Of course in some cases to prevent a country boy or girl from getting into the larger opportunity of the city is to kill a fine, aspiring spirit, to stamp out a life that is capable of being lived more abundantly in the atmosphere of a city's progress. But about this type we need not be so intensely concerned. He is so in earnest as to what he wants that he helps himself to get it. He makes his own opportunities. It is rather to those young people who are dissatisfied with what many farm homes have to offer them; who feel vaguely that they might better things and yet do not know just how to go about it; and to those farm parents who are uncomfortably conscious of their children's rebellion but do not know how to meet it—it is to these that modern agricultural leaders are talking with so much comprehension and helpfulness. And, since more is being done to solve the problem for the boy than for the girl, let us look at the question from the standpoint of girls and their mothers.

"Is the country girl neglected?" We hear much on the subject of how to keep boys on the farm, but what about the girl, who is just as intensely alive, who has some big interest in books, perhaps, or in, art, or in music, or in that most worth while of all big interests—people; who longs to be some place where she can earn a little money of her own to buy the small things that are so dear and so essential to every girl, and to do it without being scolded for every expenditure; who would like to feel it within her "rights" to spend a whole day once in a while wandering through the woods and fields with a good book under her arm, or spend a dollar to go into town for a concert without being accused of idleness and wild extravagance? What about this girl, whose very aliveness makes it impossible for her to be completely absorbed in the dishwashing and the mending and the laundry and the price of pigs? Every girl has a right to girlhood. And every rural mother has to recognize and cope with the fact that her daughter would rather buy herself a furbelow or go to a party than to know that the mortgage was lifted. There is nothing regrettable about it. It is her nature. If it were not, she might as well be a horse for all she would contribute to the joy of the world.

There is really very little intentional cruelty or conscious error on the part of parents. The chief sins against this country girl are sins of neglect, indifference and unenlightenment. And there are so many effective little remedies that can be applied to these big sins. The essential remedy is to allow her to live a balanced life, having in it a proportion of these elements; a certain amount of restraint, of work, of play, of recreation, of social experiences, of practice in self-dependence, of opportunity for service to others. And the girl may hope for these things as soon as a certain balance is effected in the thought-life of the farmer. It may be expressed in seven words—flaming words that ought to be emblazoned somewhere in every farm home:

Human rights are prior to animal rights!

When farmers really learn this—and with all the talk about it they ought soon to learn it—then more farm homes will be made really attractive and livable. If the house is large, let her and her sisters have a room of their own; put their treasures in it; keep their books there; let them use their own taste in its decoration and furnishing. Throughout the house modern conveniences will be installed, so that the family washing and other tasks suited to a man's strength rather than to a woman's will be accomplished with the minimum of effort.

After these external matters have been attended to with intelligence, we come to the big problem of internals; and first and foremost stand out two words: Good literature. Good thinking takes root and flourishes in a home well supplied with good books. The girl may have suitable and inspiring literature for every phase of her development. There will be a time when her interest in the unbounded outdoors can best be fostered by nature-study books in story form; then, with the inevitable flowering of her adolescense, she will demand love stories. There are farm homes, even today, in which the novel is tabooed as rigorously as if its assimilation would send a girl precipitately to perdition. But girls need novels. There is no more harm in a girl's reading a good novel than there is in a bird's changing its plumage in the spring. It is part of her necessary education in that biggest phase of her life-work; the work of being a woman and being a charming one, if she can. Imagine the supreme joy of her discovering "Rebecca of Sunny-Brook Farm" and then all the rest of that splendid series that tells Rebecca's love story. After this period she will begin to take an interest in the affairs of the nation; and then if she can have recourse to a few high-class periodicals she will find no end of stimulation. It is easy to avoid trash in literature.

Next, the farm girl needs work, but not drudgery. Beginning at the age of four or five she may be assigned some daily task in connection with the household work that will be of value in establishing a regard for discipline—if it be remembered that the essential thing for her is play and an enjoyment of the outdoors. At this juncture some sort of inspirational school work, useful and cultural, should be undertaken. As she grows older the amount of work may be gradually increased, preferably in the line of her developing interests, and always with an eye to her physical growth and character-development. She may wish to attend a college or school in which home economics or domestic science is taught. At home some definite thing to do each day, some helping onward of the family happiness and comfort, some work that is vitally related to her increasing activities—all this will be of inestimable worth to her. And the important thing about a mother's training at this point will be to make the girl mistress of her work instead of a slave to it. It is easy to teach a girl to work; and, since she is more readily enslaved than a boy, she is in just that much more danger of overworking. Thus the attention of the wise farm mother will center in teaching her daughter self-supremacy. Of course the problem of household work is a perplexing one, on account of the prevailing inability to secure and keep good help. But if the father of the family will not install the conveniences that lift his wife and daughter out of drudgery—well, why is it not a good plan to let that father himself assume the nature of those mechanical conveniences? As Prof. McKeever valiantly puts it in his recent book on "Farm Boys and Girls:" "It is not necessarily beneath the dignity of the best and most brilliant man of this country for him to get down on his knees in his own home and help perform the menial work there which threatens to break the health of his life-companion."

The question, "Do you own your daughter?" is one that might be put fairly and squarely to many a farm household. Prof. McKeever tells of an intelligent farmer he knows—a man much above the average in many respects—who, being a widower and feeling it the duty of his twenty-three-year-old daughter to relieve him of the expense of hiring help, regards her as a sort of chattel who takes care of the home, brings up the smaller children, and keeps house for himself and three or four hired men. This is the kind of farmer who believes that he owns his daughter;

and that belief of his may be responsible for a young life of unhappiness, ill health, and incomplete womanhood.

Upon the heels of this comes the big question of the farm girl's pleasures. The hurry of work and the isolation of the ordinary country home tend to foster an over-serious disposition in girls. There is too little practice in smiling, and laughter is too infrequent. After a hard day's work the older members of the family are prone to spend a quiet evening over their papers, and are too likely to forget that the girl sitting just across the table with a book upside down on her lap, and a wistful look on her face, is longing for that very thing which she so often uses as her excuse for leaving the farm: sociability. A little exchange of new stories, a little hearty laughter, some discussion of happenings in the world, an interested request for some music, a smiling encouragement to someone's offer to read a good book aloud—how all this would brighten up some of those interminably dull, lonely, uninspiried evenings and help to produce some of that longed-for sociability. But the whole question of sociability is not settled with this increasement of the family circle's happiness. It extends beyond that into the realm of a girl's need for society of her own age and sex—and of the opposite sex. The social life of adolescent boys and girls rests on a deeper basis than that of merely "giving them a good time." "It has its source," says Prof. McKeever, "in the sex instinct then so predominant * * * and is not therefore to be regarded as a piece of superficial sentimentality, but rather as a profound law of nature." One of the beautiful things about a well-organized social life in a rural community is its success in effecting a compromise between the tendency of the city toward a too-rapid social maturity and that of the country toward an over-slow development. Experiments in gaining this happy medium ought to be a paramount interest to farm parents. One experience of the kind that resulted triumphantly to both children and parents is worth quoting here. It is told in Prof. McKeever's book by an Iowa father:

"For years we had a room in the house which we called the 'parlor.' It contained some expensive furniture which the members of the family scarcely ever saw, as the place was usually kept closed up and dark. Why we reserved such a dark, musty room for the 'special company' that came two or three times each year, I do not know. At any rate, we decided to make the place useful. In remodeling the house we enlarged it to 16 by 20 feet in size, and added one very large window. Here we made a society room for the young people of the neighborhood. Extra chairs were obtained, also a large new stove and fixtures for gaslights. There were also some simple wall decorations and a small library table and reading table. That was two years ago. Since then our two boys and two girls have given many parties in that room, and no one has got more enjoyment out of the affairs than their parents. We feel as if that room was the best investment we ever made."

These are only a few phases of a girl's life as she will live it, if she stays on the farm, or as she may prepare to live it in wider places. There is the problem of rural schools, for instance. There is so much said about the modern rural church, and how it may be transformed into a vital force; about business training for the country girl; about her choice of and preparation for a vocation; about the farmer and his wife as leaders of the young; above all, about the farm mother and her opportunities for living a well-rounded life; about any number of big, burning issues, which, if women readers of The Gazette are interested in hearing of and discussing, we may take up at another time.

Recently while walking along a country highway, a traveler met a funeral procession. Inquiry revealed a pathetic situation. It seems that the deceased was the wife of a farmer under thirty-five years of age. While she lived they had both been ambitious and hard-working, but thoughtless of their own health and comfort. Their farm was new; besides the routine affairs of home-keeping and crop raising there were improvements to be made and a mortgage to be lifted. Their plans were to have all the reasonable improvements made, pay off the mortgage —and then take things easy! But under the strain the wife's health broke, and her death left her husband sole caretaker of three little children. In the same neighborhood similar tragedies have occurred in half the homes during the last twenty years.

These are startling, hideous revelations. A palliation of such conditions will come about only through a general elevation of country living. As soon as country parents learn to think of themselves as, first of all, engaged to better living and in bringing up their children for a better human society, and, secondly, as engaged in farming and housekeeping —then country life will have gained that necessary elevation.

WHY SHOULD FARM BOYS GRADUATE FROM THE HIGH SCHOOL?

By Mrs. F. E. Wakeman.

(Before the Taylor County Farmers' Institute.)

The importance of this subject demands thoughtful consideration. It affects not only our children, but the state and the nation as well.

In the discussion I shall quote from some of our most prominent educators, who have endeavored to urge upon parents, teachers, and the young people themselves the growing need of the high school education.

Whatever is said of the need of the boy must apply to the girl also.

Why should our boys graduate from the high school?

We may well ask this question and search for a satisfactory answer, when we realize that over 70 per cent of our boys and girls who advance beyond primary instruction never go beyond the grammar grades.

It is not necessary to argue the need of an education, the need is apparent. Perhaps this is not the place to point out the possible defect in our high school course, or to show wherein it may be improved to suit the needs of the various pupils, but rather, to give reasons why our children should continue their studies at least through the high school course.

Prof. McKeever says: "We are living in an age remarkable for its rapid reconstruction of all our industrial affairs. Many splendid vocations are open to the well educated young captains of industry. The present day problem of reclaiming vast areas of desert and waste lands, of introducing and promoting new methods of crop and animal production, of reorganizing or developing anew many commercial enterprises, of manufacturing the thousands of machines and other pieces of apparatus demanded for carrying on the world's business. All these and numerous other affairs of their kinds are constantly calling for young men trained in head, hands and heart to keep them going.

Scholarly farmers and stock raisers, carpenters and iron workers and engineers assistants and the like are what our industrial age is in greatest need of and it is high time that parents view this situation aright, and prepare their sons to meet it.

Much of the indifference of the child regarding his education is due to error in his early teaching. If in planning for the child's future the parents would begin early to talk of and plan for the school course as though taken for granted, and the young child encouraged to earnest, honest persistent work in the grades, being assured all along the way that father and mother sincerely believe in him and expect much of him, always receiving encouragement rather than criticism, oft repeated expressions of praise of his efforts, the chances are that he will go on and complete the course without thought of dropping out.

Here we feel like placing emphasis upon the parent's obligation, which seems such an important factor in accomplishing good results.

But if the parent fails, during these early years, to so direct and encourage the child that he loses his interest in schools or if, for any reason, he lags and is ready to quit school before finishing, shall such an important matter as the education be left to his mere whim or caprice, limited as he is in experience and immature judgment.

Rather, the parent should tactfully and patiently try to show him the great mistake he would be making to quit school at such an early period in his life.

We have on every hand illustrations of men with great natural endowment who are wonderfully handicapped for lack of education. Perhaps some of these may have lacked opportunities, but it is probable many of them might have been better educated, thus increasing their usefulness, had parents, teachers, or someone else taken the pains to encourage them and impress upon them the value of a better education.

The school of experience may be all right for some, but it is not adapted to the masses, besides, the tuition is high.

Once in a while we see a self-made man who has apparently succeeded well.

Some may point to such a one as an illustration of what man may achieve without an education. Yes, but he probably has attained this success in spite of his lack of education, and not because of it. One might as well argue that because some one recovered from a serious illness unaided that all doctors and medicine could be dispensed with.

As to the direct benefits of a high school course. The study of literature opens a field before the student from which he may glean the purest and loftiest thought and sentiment of all the ages.

English and ancient history acquaint him with people and nations of the past, and to the extent of looking backward he is able to discern the trend of his own times.

The study of botany unlocked the secrets of the vegetable world, revealing the economy, utility and beauty of the vegetable kingdom, which constitutes so great a part of his environment, and provides so bountifully for his sustenance.

As much may be said for the study of zoology. The knowledge of these things not only broadens his intellect and thought and stimulates investigation, but it also adds to his resources. A prominent educator tells us that "One whose mind has been carefully trained by mathematics, the classics, modern languages and physics is capable of quicker thinking and better judgment than a lad who comes to his duties fresh from the farm or the city and without such discipline of the mind. He can remember orders better; he is smarter at figures; he has acquired greater discernment, and in other ways he is generally master of the situation, securing the friendship and respect of his fellow-workers and the kindly notice and approval of his superiors as well. His ability to act in an emergency, his initiative, his personal resource and his general reliability single him out for promotion."

The high school course also affords great opportunity for the development of the pupil in many other ways. Not only in broadening and expanding his intellect, but training him in the care of his body, teaching him self-control, developing within him self-government, and since our entire theory of government is based upon intelligent self-control, this is of immense value to him.

In a very apt sense, the school represents society. The pupils there found represent in minature the aggregation of men and women in active life and may be taken as fair types of what active life really is in the outside world. So, there he has a splendid chance to learn to respect the rights of others. This course of discipline develops in him all the nobler traits so much to be desired and which every good person values so highly.

In addition, there are the great intellectual achievements that come from the study of books; also the help that comes from the daily contact with others whose aspirations are worthy as his own.

It is true that he will encounter evil influences, he will meet with temptations, yet no more in the school life than elsewhere.

If he has formed studious habits, is reasonably trustworthy and self-reliant through the guidance of parents and teachers, it would seem he had the best possible chance to grow and develop in the right direction.

Since work is the solution of many a vexing and perplexing problem of the boy, where could the large share of that work be more profitably done than in the school room during these plastic years of his life?

The splendid teachers, faithful christian men and women, and they usually are, are in themselves a great moral force. Someone has paraphrased a remark of a noted American divine thus: "To have teaching judgment, to have a good teaching head and heart, to have a deep enthusiasm in the highest and best kind of teaching are the qualities that will develop the good in children."

From such influence the youth goes out into the world better equipped in head, heart and hand to grapple with the problems of life that seem hard enough even when the best possible preparation has been made. He is better fitted for a successful and happy career and has a much broader outlook upon life.

In conclusion: Since a truly successful career means much more than the accumulation of dollars and the making of a life much more than the making of a living, we can but feel that to him who knows the world and is able in the best sense to wield the world besides experiencing the infinite satisfaction of doing good in the world, to him belongs the highest type of human greatness.

AGRICULTURAL FAIR ASSOCIATIONS AND THEIR UTILIZATION IN AGRICULTURAL EDUCATION AND IMPROVEMENT.

BY JOHN HAMILTON.

Farmers' Institute Specialist, Office of Experiment Stations.
U. S. Department of Agriculture.

INTRODUCTION.

Now that the better utilization of organized agencies for the improvement of agriculture is being generally considered, attention is naturally directed to the county fair association as a force which, if properly directed and developed, might be of great service, since it provides a local agency in each county that is directly interested in the development of the agriculture of that particular county and possesses the requisite legal power to act in directions that it may deem best for accomplishing its purposes. There are over 1,200 county fair associations in the United States, with a registered membership of approximately 250,000. Their annual gross receipts amount to about $6,500,000, and their expenditures for premiums to almost $2,500,000. *

PRESENT NEED FOR EFFICIENT LOCAL AGRICULTURAL ASSOCIATIONS.

That need exists for proper local associations to aid in the improvement of rural conditions is admitted by all who have studied the country problem.

There is, first of all, the great fundamental need of increasing production. This of itself is sufficient reason for the existence of organiations in each county to give intelligent attention to soils, fertilizers, animals, crops, tillage, moisture supply, drainage, seed selection, fruit culture, the farm wood lot, and the many other items directly affecting agricultural production.

Then there is the need for the improvement of the highways, the consolidation of rural schools, the adaptation of the courses of study in these schools to country life, the betterment of agricultural homes and their surroundings, the economical marketing of products and purchasing of farm supplies, etc.

Agricultural educational institutions, particularly the agricultural colleges and experiment stations, are looking for more efficient means for reaching country people with agricultural information, and now that extension departments are being organized in all of these colleges, the need for efficient local institutions in each county to act as centers from which to operate is very apparent. The county fair associations are already organized as public agencies for the dissemination of agricultural information, and it is only necessary to strengthen their organization and work in order to give them a larger and more important place in our rapidly developing system of agricultural education.

The county fair has already been found to be a most valuable assistant to the agricultural college and experiment station whereever its services have been utilized, and the college in turn has greatly strengthened the fair association through its support in furnishing educational exhibits and skilled demonstrators and judges at the annual shows. and by setting a high standard along all lines for rural betterment.

In response to inquiries sent out to the agricultural colleges and experiment stations of the United States it is found that out of 47 States and Territories reporting, 13 colleges and 5 stations sent separate exhibits to State or county fairs in 1908, and that 18 other colleges and stations united their material into joint exhibits and sent them to State or county fairs. Many of these collections were very elaborate, including beef and dairy cattle, swine, sheep, poultry, fruits, vegetables, forestry products, nursery stock, models of farm buildings, samples of cakes, bread, canned and dried fruits, preserves, pickles, sample of needle work, exhibits of stenographic work, type-writing, samples of business letters, examination papers, charts; also specimens of feeds and forage crops, model dairy plans, plans for model farms, specimens of insects and fungus growths, tables giving the composition and yields of various crops, samples of soils, praying apparatus; forge, lathe, and hand work in wood and metal, and similar articles exhibiting the character of the educational work of the institution. These exhibits were in charge of expert demonstrators to explain their characteristics and reply to inquiries respecting the work of the college or station. One institution had nine demonstrators at a single fair. In all cases the exhibits were of an educational character, and of use in teaching the subjects of agriculture, domestic science, or mechanic arts.

Farming people particularly were interested in these exhibits and their appreciation and value have been such as to prompt the college authorities to continue and enlarge them. The colleges and stations were represented during that year at 101 fairs, being limited in the number only by the amount of money available for bearing the expense.

Among the advantages claimed by the institutions from their exhibitions at these fairs are:

(1) Opportunity to meet farmers personally and explain the work of the institution.

(2) Opportunity to secure cooperators in demonstration work.

(3) Opportunity for the college to conduct agricultural schools and short courses and demonstrations while the exhibition is in progress.

(4) Opportunity to initiate new movements for the improvement of agriculture.

(5) Opportunity for the education of fair managers in the conduct of agricultural exhibitions.

(6) Opportunity for collecting into one place the results of field demonstrations for the inspection of the public.

(7) Providing a place for the exhibition of the results of contest work by school children and country youth.

(8) Enabling the college and station to secure the names and addresses of representative farmers and of young people with whom to correspond in disseminating agricultural information, and in securing cooperation in projects for rural improvement.

THE FAIR REDIRECTED AND ENLARGED.

All that the present fair association needs for immediate action in the wider field now open is a change of view as to its mission and scope and a practical plan for carrying on its work. Its activities need to be redirected and enlarged to fit the association to take advantage of the opportunities for aiding rural betterment that lie before it. If it is to be a leader in rural betterment its organization and methods must be carefully outlined in advance to be in accord with the conditions that control success in such enterprises. As careful study should be made by the management, of the needs of farming people as well as of their peculiarities and temperament, as if those interested in the fair were about to invest in a department store or engage in the manufacture on a large scale of an article or articles intended for general use.

The fair even if assisted by the State will be largely dependent upon public patronage for its success. If public patronage is to be secured and held the fair as a whole must be made sufficiently interesting to attract those whose presence is desired. In doing this it can not descend to the use of low or questionable methods or to cheap, vulgar, or tawdry shows, no matter how great the crowd these may draw or how remunerative they may be. Its attractions must be of a character that will elevate and instruct, or if for entertainment the exhibition must be free from everything that suggests evil, ridicules purity, or tends to deceive, defraud, or vulgarize the public.

The fair that is to be a worthy leader and is to meet the needs of contry people must be strong, clean, full of interest, well managed, and in entire sympathy with country life. It must first of all and above all be loyal to its own constituency, the agricultural public, and not be swerved from serving them in the most effective way by any influence or set of influences that it may encounter, however enticing.

EXHIBITS.

The fair in its main feature is an exhibition. Its character is therefore determined almost entirely by the grade and variety of the articles that it displays. Since its main purpose is to improve rural life in all of its phases, the exhibits should be of a kind that will contribute to that end. The basis, therefore, of the fair should be exhibits from the farm, the garden, the wood lot, horticultural exhibits, household exhibits, poultry, domestic animals, agricultural implements and machinery, models of country homes with sanitary surroundings and modern conveniences, forest products; manufactured articles, and educational exhibits of methods, courses of study, school buildings and grounds, and school gardens adapted to rural conditions.

The entries for premiums should be open to individuals, to institutions and to communities. A brief statement made out upon a card should be attached to each exhibit showing by whom it is exhibited, the feature it is intended to display, with such additional information as may be important to a proper understanding and appreciation of its use and economic value.

Each class of exhibits should be set up by an expert and be attended by some one capable of explaining the quality and uses of the several articles in his section. Whenever possible the exhibitor of the article or animal should be present in person during the fair and call attention to the valuable features of the things that he is exhibiting. If samples only are shown of larger quantities on hand for sale, they should be accompanied by a statement of the quantity that is thus available and the price, with a guarantee that the goods to be delivered shall be true to sample.

JUDGING.

The judging for premiums ought to be by disinterested experts, and every award should be accompanied with a statement showing why it was given, and the judges should be ready to make a public defense, if called upon, in support of their conclusions. The State department of agriculture might have lists of persons on file certified as capable judges in the various groups of exhibits, who would be available for service at county fairs at a stated compensation.

SPACE.

A moderate amount of space should be furnished free to each exhibitor, and any additional space required should be charged for at a reasonable rate.

FEED AND ATTENDANTS.

Hay and bedding for animals could in many localities be provided free. Grain for feeding should be kept on hand to be sold at moderate rates to exhibitors of animals or to visitors who merely wish a single ration. A list should be kept at the secretary's office of reliable persons who may be hired by exhibitors to take care of their stock or for such other service as may be required.

DEMONSTRATIONS.

Certain stated periods each day should be devoted to demonstrations to be held at different places on the grounds. These demonstrations might be the packing of fruit; the use of the Babcock test; spraying operations, including the mixing of sprays, as well as their application; killing, dressing, and packing poultry for market; sanitary handling of milk; transplanting, budding, and pruning trees; seed selection; germination tests; laying out and planting garden plats; stock judging; canning, preserving, and drying fruits; cheese making; butter making; testing agricultural machinery; disinfecting rooms, stables, and clothing; conducting cooking schools, dress-making and millinery school; demonstration plat work; plowing matches, and similar contests.

These demonstrations can be made valuable features of the fair, depending upon the skill of those in charge of them. Machinery in motion, processes in course of performance, and other forms of effort in actual operation attract attention and are never-failing sources of interest.

By stopping all other exercises and concentrating attention upon the demonstration features for an hour or two each day, variety will be given to the exhibition, and valuable information can be imparted free from interruption or distraction by other exercises.

CONTESTS.

Contests in crop production, animal breeding and feeding, and other agricultural operations should be organized early in the year, the results to be exhibited at the fair. Persons entering such contests should be required to declare in advance their intention to compete, in order to shut out crops or animals that are the result not of skill but of mere accident or chance.

In all such contests accurate data should accompany each report showing the items of cost in producing the article and the methods pursued. The premiums offered should be for results secured under conditions possible to every farmer of intelligence, and be for operations above those on a minature scale. To exhibit 10 ears of corn out of a crop of 40 acres is no evidence of superior farming, but to exhibit 10 superior acres out of such an area is a real test of skill and worthy of proper recognition. For persons in control of farms the contests should be in operations of sufficient size to require the exercise of more than ordinary exertion and skill. For boys and girls they could be adapted to suit the means at their command.

ENTERTAINMENTS AND AMUSEMENTS.

Trials of speed, acrobatic and sleight-of-hand performances, exhibitions of trained animals, moving pictures, the merry-go-round, military drill, games of ball, foot races, and other athletic sports, baloon ascensions, and similar entertainments are all unobjectionable when properly controlled, and provide entertainment to those who come to spend an idle hour. They should, however, not be permitted to interfere with the main exhibition and the more serious purposes of the fair. The association must first of all be loyal to the industry that it represents. To insure this its entertainments should be restricted to certain hours, and when presented opportunity should be given to all to witness and to enjoy them.

All disreputable shows, gambling devices, and loud, coarse fakirs with monstrosities to exhibit, should be rigidly excluded from the grounds. Nothing that the most refined and modest woman might not see or hear should be admitted. All others ought to be shut out as unworthy of a place in a self-respecting community, and the superintendent of this department should be held to strict accountability for the enforcement of this rule, and an adequate police force should be at his disposal for the purpose.

The expenses attendant upon the presentation of the open air entertainment features of the fair could be met by the fair association, and for this a specific appropriation might be made. Such in-door sports or entertainments as the merry-go-round, moving pictures, animal exhibits, and sleight-of-hand performances, can be permitted to charge an entrance fee, the amount to be agreed upon with the managers of the fair.

CONCESSIONS.

Boarding houses, restaurants, advertising and selling agencies of approved standing, and all legitimate business and industry may be given a place in the fair under well-defined regulations that protect the public against fraud or overcharge.

Charges for these concessions should be in accordance with the business transacted. A cash payment should be required for the initial privilege or ground rent, and then a percentage of profits on the sales.

All of the concessions should be under the strictest regulation and surveillance to insure that no improper advantage is taken of the public in attendance at the fair.

No concessions should be granted to sell intoxicating drinks or other injurious beverages, or to license the advertising or selling of articles of questionable value, or to conduct any game of chance or to furnish amusements or entertainments jeopardizing life or limb.

FINANCES.

The receipts of the fair association are from admittance fees, such as gate receipts, family tickets, and life memberships; from concessions, rents, and lectures; and from purses contributed for special purposes.

The variability from year to year in amount of income from these sources, due to unfavorable weather at the time of the fair, the presence of epidemic disease in the neighborhood, rival attractions, local prejudice, and other causes has prevented the proper development of the county fair, through fear on the part of the management lest their officers be left at the close of the exhibition with a large indebtedness on their hands for which they will be individually liable.

STATE AND COUNTY AID.

An assured income is a necessity if the fair is to do its work efficiently and expand as the needs of the country develop. State or county aid, or both, is essential in any system of fair organization that is to serve the people and improve their methods. The lack of such an income is responsible for the presence of most of the objectionable features admitted to fairs at present, and for the consequent loss by the fair both of prestige and support by farming people. The management must be independent of need of the money that fakirs and gamblers offer for the privilege of swindling visitors.

Grants of money to the fair association by the county or the State are therefore a necessity without which the best and most useful type of the fair can not exist. These grants should be carefully guarded so as to stimulate and not enfeeble effort on the part of local people, and to insure that the funds are not used in promoting worthless projects or visionary schemes. The representatives of the State boards of agriculture appointed to see to the proper conduct of the county fair should also be charged with making inquiry into its use of the public funds, and if these are squandered or used in violation of law, subsequent appropriations should be withheld until the portions so misused shall have been refunded to the State or county and satisfactory assurance given that future grants will be properly expended.

EXPENDITURES.

Expenditures by the association are for premiums, salaries of officers, of lecturers and expert judges, rent, permanent improvements, interest on indebtedness, and other miscellaneous minor items.

When the fairs are conducted for the public advantage and not for private gain, there is no reason why these expenses should not be met out of the public funds. The State, on the other hand, should be secured in such of its appropriations as are expended in the purchase of property or for permanent improvements, by liens that will protect its interest in case of loss by fire or by sale of the property. The balance of the funds in such case after reimbursing the stockholders, if any, should be paid over to the county treasurer to be invested and held for such future use in aid of agriculture as the court of that county may direct.

Reports of the executive committee of the association showing the receipts and expenditures of the fair association at its exhibitions should be made as promptly as possible after the exhibition has been held, and copies of these reports should be transmitted to the secretary of the State board of agriculture, the county treasurers of the counties in which the fairs are located, and to the State auditor for approval and record.

PREMIUMS.

The character of the premiums awarded may vary indefinitely, and be in the form of cash, medals, certificates, or other recognition of merit according to the importance of the display and its place in rural industry.

The award should be for excellence, and no matter how many articles are exhibited in a class or how few, no premium should be given unless deserved.

The competition is not so much with others as with excellence. The exhibits, therefore, should be rated and the award made as this is approached. Accordingly, for the information of competitors, there should be published with each class of exhibits the requirements that will be considered by the judges, and as far as possible the percentage for each requirement as it enters into the make-up of a standard article or animal in that class.

Special premiums should be offered for new methods, or for new plants, animals, or implements introduced and of superior excellence. Similar special premiums should be offered for successful farms, for special crops, or for herds of animals reared by the owner on any farm, and for superior orchards and gardens; for school buildings, including also churchyards, country cemeteries, and other items that can not be shown at the fair, but are worthy of special recognition as evidences of intelligent treatment or marked success.

LOCATION OF THE GROUNDS.

The fair grounds should be accessible to steam and trolley lines. If possible, the buildings should not be far from some town, of a size sufficient at least to supply hotel accommodations for visitors during the fair and with a population that can be depended upon for patronage. In most instances the county town is the most advantageous location owing to its size and the opportunities afforded for visitors to shop and attend to such legal business as may require the advice of an attorney or access to the county records.

Location near a town is also insurance against total failure in times of unfavorable weather that prevents attendance by visitors from the adjoining country. Local pride sometimes secures support by the town residents that would be wholly absent if the fair had no constituency specially interested in its success. Exhibits also of great variety can frequently be had from the business houses of the town, and from private collections where the location is within easy reach.

SIZE OF THE GROUNDS.

The amount of land considered necessary for a county fair has heretofore been determined largely by the size of the speedway or racing course. The course varies from one-third to one-half or to even 1 mile in length, and the grounds have been correspondingly extended to accommodate this length. Leaving out of account the racing features, the requirements of an ordinary fair would be simply for room indoors sufficient to accommodate the exhibits of farm products, animals, and machinery, together with a show ring with seating capacity for from 500 to 1,000 persons, depending upon the locality. This last can also be used as an audience hall for public meetings. Rooms should be provided for the president, the secretary, and the various committees. There should also be police and hospital accommodations and quarters for superintendents and assistants, together with ample storage rooms for forage and for the deposit of packing cases, also rooms for lunch counters, rest rooms, and a place for the power plant. If grounds are attached the outdoor space should be sufficient for demonstration plats, samples of school gardens, an arboretum, flower gardens, grass plats, small orchard, shrubbery clumps, samples of properly constructed roads, walks, fences and arbors, with such additions as the importance of the community and its degree of prosperity make it practicable to own and utilize.

From two to five acres are ample for a county fair to use in its exhibitions. More than this is usually unutilized waste, and is generally unkempt in appearance and an injury to the fair instead of a benefit. Substantial buildings well arranged and small grounds planted with interesting material and neatly kept are the ideal.

By restricting the area the fair can be held in the edge of a town and be easily reached on foot. By having it thus accessible and beautified as a park, it will soon become a public resort for the citizens, and by having the buildings adapted to use for lectures, shows, theatrical performances, and other purposes, and capable of being heated in the winter and thrown open in the summer, the chief difficulty in the way of making the enterprise financially successful will be met. Although unfavorable weather may interfere with a full attendance, yet it will not wholly prevent a reasonable number of the citizens of the town from coming out. The fact that the grounds are near by and that the buildings can be heated in the winter and be lighted at night, making them available for meetings, midwinter fairs, and similar uses, enables the management to secure from rentals sufficient income to materially aid in maintaining and extending the work of the association. Some of the rooms could be fitted up and rented permanently for offices or for business purposes, the occupants not to be disturbed when the fair is held.

If the buildings are to be utilized in the wintertime they must be well constructed and be kept neat and clean. If they are archiecturally attractive and convenient in arrangement there will be little difficulty in a portion of them being remunerative the year round, instead of a constant expense. In some instances it would be possible to keep open an agricultural museum, a library of reference, exhibit of samples of agricultural implements, besides accommodating the office of the county secretary. The county fair buildings would thus soon become a recognized business center where farmers and others who come to town to make purchases could meet appointments and where women could find a comfortable place to rest.

The location of the grounds and the arrangement and equipment of the buildings are therefore most important matters if the fair is to be a financial and educational success and be serviceable to the community during the entire year.

CUSTODIAN.

A custodian should be on the grounds continually throughout the year to see that nothing is molested, and that the buildings are ready for use whenever needed. He should be empowered to arrest trespassers or persons injuring the property. If stock stables for breeding purposes are maintained he could be kept employed in overseeing and caring for the animals. If a park and experiment plats and gardens or plantations are laid out he could find plenty to do in keeping them in order and attending to their cultivation. The buildings, by having a custodian in charge, can be insured and thus be protected against loss by fire.

WATER SUPPLY.

An abundant supply of wholesome water is most important, and the fair grounds should not be located where this can not be had. Where connection with a town water system is not possible a reservoir supplied either from springs or from a well is a necessity. The pumping engine should be of sufficient capacity to throw a large quantity of water in case of fire or other emergency.

SEWERAGE.

The safe disposition of sewerage is a most important part of the equipment of a fair that is to be permanent. Connection with the town sewer system is often the most convenient and economical method of its disposal. Where this is impracticable a cesspool that can be disinfected is an alternative. Disposition of sewage can also be made by means of septic tanks.

PUBLIC COMFORT.

Well-arranged and sanitary rooms or buildings should be located in easily accessible places as retiring rooms, fitted up with basins and closets. Custodians should be in charge to see that everything is kept clean and fit for use.

LIGHTING.

A thorough and safe system of artificial lighting should be installed. This is not only neecssary for evening performances, but it is the cheapest and most effective protection at night against disorder and theft that can be devised.

TELEPHONE SERVICE.

A local telephone connecting the main offices with the police headquarters and with all of the principal buildings, including the hospital and the general-service phones or telegraph office of the community, should be established.

HOSPITAL.

There should be a building for a hospital, with a physician and nurse in attendance, and with conveniences for the care of any persons taken ill or receiving injury while in attendance at the fair. An ambulance, which may also serve as a patrol wagon, and a set of stretchers should be at hand for bringing any sick or injured to the hospital, or for removing them for the purpose of taking a train, or, if necessary, for taking them to their homes.

POLICE SERVICE.

The security of the articles entered and committed to the care of the fair association by the exhibitor must be as nearly complete as possible. This requires a faithful and efficient corps of police to be on duty day and night until the articles are returned to their owners. Every member on the force should be well recommended before employment, and explicit instuctions should be given to each respecting his particular duties. The chief of the police force should be a man thoroughly interested in the fair and identified with its management and not be an outsider hired temporarily for the purpose. Part of the force should be in citizen's clothes, with no outward badge or insignia to show their position or authority. A guardhouse should be on the grounds, with a room for the confinement of offenders, and the house should be fitted also with sleeping rooms for the accommodation of the police force. They should go on duty in reliefs of two to four hours, similar to the guard in military service. One or two competent detectives should also be on hand to identify professional crooks, and see that they are arrested and shipped away promptly on arrival.

Good order on the grounds is a necessity if the fair is to be a place where visitors shall be free from annoyance or insult. Prompt action therefore should be taken in the arrest of intoxicated people, the quarrelsome, the profane, or otherwise misbehaved. Their immediate arrest and subsequent punishment will insure a clean fair and go very far also toward making it a financial success. A patrol wagon, which may also serve as a hospital ambulance, should be at hand to transport offenders to the lockup or general prison. The local justice of the peace should have an office on the grounds and be accessible at all hours of the day.

FIRE APPARATUS.

The police should be provided with fire apparatus to be ready for prompt use in case of need. A chemical outfit and hand grenades for extinguishing fires should be in all of the buildings and be readily accessible and the police be instructed in their use.

SANITARY REGULATIONS.

The police force should also see that all unsanitary practices are prevented, and that the public-comfort buildings are kept in good condition; that littering the grounds and buildings with paper, shavings, or other unsightly material is prevented. To aid in keeping the grounds clean, receptacles convenient for the deposit of waste paper, banana skins, and other rubbish should be provided.

ADVERTISING.

Much of the success of the fair will be dependent upon the good judgment exercised in advertising it. Circus managers appreciate the importance of this and have reduced their methods in this respect to a system that is complete and insures profitable returns. Failure to make the fair known, or to make it known in an attractive way, will seriously affect both the number of exhibits offered and the attendance when the fair is open. A good press agent, therefore, is a necessity if the fair is to surpass the ordinary exhibition of previous years.

SEASON FOR HOLDING FAIRS.

Successful fairs are being held at all seasons of the year—midwinter, spring, midsummer, and autumn—depending upon the object to be attained and the accommodations. The midwinter fair must, of necessity, be indoors. For this, closed and heated accommodations must be provided sufficient for the exhibits and for the visitors who attend. The exhibits at the winter fair are usually confined to live stock, seeds, grains, poultry, florist's plants, and exhibits along the lines of domestic science and household art. Those in the spring show implements, machinery, nursery stock, vegetable seeds, hotbed plants, fertilizers, dairy and creamery products, household furniture, and samples of grain, such as wheat, rye, barley, oats, corn, clover, and timothy seeds for spring planting, exhibited as specimens of larger quantities held in store for sale.

The summer fairs exhibit the products of agriculture of the season, as summer fruits, garden vegetables, grain and forage crops, live stock and poultry, household articles, manufactures, agricultural implements and machinery, samples of grains for autumn seeding, berries, school gardens, forest plantations, model samples of school grounds, experiment plats, seed testing on trial plats, stock judging, testing dairy cows, and similar exhibits. The summer fair partakes largely of the nature of a harvest-home picnic or summer outing, and includes lectures and addresses by eminent agriculturalists and others interested in rural betterment.

The autumn fairs are held in most of the states in the months of September and October, and comprise a collection of the products of the year. They are the principal fairs of the season.

BREEDING STABLES.

A very important service that the fair association can render is in giving assistance to those who are interested in rearing better stock. The difficulty that confronts farmers in many sections, who wish to improve their stock, is the impossibility of securing the service of well-bred sires. There can be no improvement in our domestic animals until well-bred sires are introduced and their use be had at rates low enough to be within the reach of farmers of ordinary means.

The county fair association could do no better service for live-stock improvement than to purchase or hire the use of one or two well-bred sires of each of the leading breeds of horses, cattle, sheep, and swine, and have them kept for service at moderate rates, and offer these services at these reduced rates to those only who are members of the fair association, thus inducing the more progressive farmers to join the society and aid in its support. There is no reason why this can not be done, and at the same time make it a source of revenue to the association.

As an inducement to undertake this work a special grant of money might be made by the state or county, to be offered to such associations as will maintain breeding barns of well-bred sires. As a purely business proposition no better investment can be made of public funds than to supply the aid necessary to bring about such action, for a slight improvement upon each animal will add enormously to the wealth of the agricultural people of the state.

PAID SECRETARY.

If the fair association is to fulfill its mission, its influence will have to be felt for more than the few days during which the exhibition is held. It will have to be an active force the year around. Before this can be done there must be a paid secretary who can devote all of his time to the affairs of the association. The secretary should be an expert in agricultural matters and not a mere clerk with little or no practical or theoretical knowledge of this industry.

HOW SHALL COUNTY FAIR ASSOCIATIONS BE INDUCED TO UNDERTAKE THIS WORK?

Many associations are now ready for what has been here outlined, and will be glad to undertake the work if a practicable plan is shown. Others will need urging This will require the personal efforts of organizers to meet their managers and show them precisely how they can do at least some of the things that are needed, leaving the others, if necessary, for future consideration after the movement is well under way.

Responsibility for and the initiative in this work might be given to the state boards and departments of agriculture. Agents could be employed by them to visit the several counties to organize new fair associations, and to reorganize the old. Later, these agents should revisit the societies to see that they understand what is proposed and to assist them when necessary in carrying out the project. This is a kind of service that the state departments of agriculture are specially fitted to undertake, and, in securing valuable results to agriculture, is as promising a field of effort as any other that they have hitherto attempted.

Most of the state departments or boards of agriculture have interested themselves in the local fair associations very little beyond collecting copies of their premium lists and getting records of attendance and the amount of the gate receipts. If they will devote some of their time and money to sending out an expert or several experts to organize county fairs and to advise with their officers and aid them in carrying on their work, they will not only be increasing their usefulness to the farming industry, but their action will also be in direct keeping with the purpose of the commonwealth in establishing state departments for the benefit of agriculture.

APPENDIX.

The following suggestions for the organization of fair associations and for the management of exhibitions in the interest of rural people are presented with a view to aiding those who are interested in this form of public education to establish and conduct successfully a county fair that shall be free from the objectionable features that have too frequently been permitted in the past, an exhibition that shall possess only desirable characteristics such as shall interest, entertain, and instruct.

ORGANIZATION FOR A COUNTY FAIR.

The organization to be most effective should be a legal body with full authority for conducting the business of the association. Perhaps the best method for securing this is by a State law providing that if a minimum number of citizens subscribe to a form of agreement or constitution and pay annually into their treasury a certain per capita sum, and hold annually a minimum number of open meetings in the interest of agriculture, and shall file a copy of their constitution and by-laws, together with a list of their membership, with the auditor general of the State and with the court of record of the county, the organization thus effected shall be a body corporate in law and entitled to the exercise of the powers and be subject to the obligations prescribed by the act of assembly providing for such associations.

The act might set forth in definite terms the following items:

Membership.—Men and women over 21 years of age, resident of the county, shall be eligible to membership upon subscribing to a constitution embodying the terms of the act of assembly relating to county fairs, and upon the payment of an initiation fee of $——, and annual dues of at least $——. The minimum number necessary to organize not to be less than ——.

Officers.—The officers of the association shall be a president, a vice president, a secretary, a treasurer, and an executive committee composed of —— persons, two of whom shall be the president and secretary of the association, all to be elected by ballot at the annual meeting of the association by the qualified members thereof from their membership, to hold office for one year or until their successors are chosen, except, that the secretary and the treasurer may be from outside of the membership, and that the secretary shall be elected for three years or until his successor is chosen.

Special Committees.—The form of organization should provide for special committees, as committees on schools, roads, and similar subjects of rural interest, and also for the appointment of superintendents of departments, clerks, assistants, and other employees necessary for carrying on the work of the association.

Supervision by State Board.—There should be general oversight of the county associations by the secretary of the State board or department of agriculture, who should be empowered to fix the dates for the annual exhibitions so as to avoid conflicts, and to this end he should district the State into sections or circuits, limiting them to a size that will enable the fairs in each section to be held wihin the brief season at which fairs are usually held, without interfering with each other, and to have them come in such consecutive order as will require of officers and exhibitors the least amount of travel and inconvenience to attend.

At each fair there should be a representative of the State department of agriculture to see that the legal requirements governing the exhibits and the management of fairs are complied with.

CONVENTION OF COUNTY FAIR REPRESENTATIVES.

A general meeting of representatives from all of the fair associations of the State should be held each year for conference and the discussion of the questions that arise in the administration of the work of the county associations. The presidents and secretaries of the local associations should be ex officio delegates to these meetings and three others, chosen at the annual meetings.

PRESENT STATUS OF THE DRAFT HORSE BREEDING INDUSTRY.

BY WAYNE DINSMORE.

Secretary Percheron Society of America.

In The Breeder's Gazette.

The big gray geldings are sold, although only three years of age, and the buyer has come. Father has gone to deliver them, but twelve-year-old Robbie is nowhere to be seen. He, poor lad, does not wish to see them go, as they made his pet team. He was the first to find them as foals and proudly commented on their shapeliness and early promise of strength. He taught them to eat ere they were six weeks old, and it was Robbie who saw that they never lacked for good pasture, clean alfalfa hay and good corn, bran and oats. Their size, docility and ready response to the rein are due in large part to the small stockman. He realizes that the $700 the buyer has paid for the pair will go far toward paying for some of the improvements he and father have been planning but he hates to see them leave the farm. The need of looking after the young stallions in the east pasture furnishes a good excuse, and he has gone back there to hide his boyish grief. The younger colts will soon cause him to forget those that are going, and he begins to realize that the sturdy draft horses father and he are breeding are important factors in the financial success of the farm.

The present status of the draft horse industry is better than at any time in the past twenty years. It is doubtful whether breeding prospects have ever been so good since Louis Napoleon started the work of draft horse improvement in America in 1851. The year 1911 has been a good one for draft horse breeders. Prices have been steady on breeding stock, and higher for commercial horses. Demand has outrun supply for the year as a whole. Sound horses, weighing 1,600 pounds or over, of full age, have averaged very close to $285 per head on the Chicago market. Anything at all high-class has brought from $375 to $425. Matched pairs, sound, five years old, and weighing over 3,400 pounds, have brought from $650 to $800 per pair, and buyers have never been lacking for this kind. One Ohio farmer and feeder sold ten geldings, four of them three years old, for an even $4,000 on September 27. These were high-grade Percheron geldings, most of them bred in Iowa and Illinois. The most symmetrical of the lot was an Ohio-bred colt, and a man who claimed to know his breeding well stated that he was the result of seven top crosses of pure-bred Percheron sires. These geldings were all well bred, showing good blood in their size, symmetry and excellent quality. The New York firm that bought them purchases this kind as fast as they can be found.

The good prices prevailing for commercial draft stock is attributable to the increasing demand and the scarcity of heavy horses. Increasing population, rapidly expanding commerce, and a swiftly growing appreciation of the necessity for using draft horses on high-priced farm lands, furnish substantial evidence regarding the need for drafters. The auto-truck and steam plow, proclaimed as sure to supercede the horse, have had no appreciable effect. There is no more reason to believe that they will materially curtail the demand than there was to suppose that railroads would eliminate horses.

Director Durand of the United States Census Bureau has recently advised the public that the 1910 census shows the horses and colts found on the United States farms and ranges to number 19,731,060. Allowing 7 feet per animal, this means a continuous chain more than 25.000 miles long, enough horses and colts to form a belt more than around the world. This is only the preliminary report and does not include any horses or colts in towns or cities. When these are counted in the United States will have enough horses and colts to reach much farther, and besides there are on the same basis 5,500 miles of mules and mule colts which the 1910 census uncovered. The total value of the horses and colts is $2,076,297,828, and when we include the mule, indispensable adjunct of armies, the grand valuation is $2,598,699,908; enough to pay the present national debt twice over, with a half billion to spare. In fact, the value of the horses and colts on farms and ranges is more than double the combined capital of all the national banks in the United States. The total value of the horses, mules and colts is greater than the combined value of all the other live stock, poultry and bees on American farms.

Horsemen may well feel proud of the rank their industry takes among those of the nation, but it must humiliate them to realize that draft horses, the highest-priced and most useful, constitute not more than one-third of the grand total. That the proportion of draft horses is so low will surprise many, but it is the conservative judgment of the most experienced and best informed men engaged in handling commercial horses that not more than 25 per cent of all the horses reaching the Chicago market weigh over 1.550 pounds. This includes all up to this weight, good or bad, and not more than 5 per cent of all the Chicago offerings are real draft horses, sound, of full age, and over 1,700 pounds in weight. Market offerings reflect the conditions in the breeding districts, and it is exceedingly doubtful whether thirty out of every hundred horses in the United States will weigh 1,550 pounds at maturity. At that, not more than one-third of those making that weight or over can be classed as good, sound animals, weighing 1,600 pounds or more. It is therefore evident that not to exceed ten out of every hundred horses reported by the census are of real draft stamp.

Every horse of draft weight but of inferior character (which by reason of such inferiority sells for from $40 to $50 less than another animal of the same weight but of correct type) represents that much actual loss to the farmer who raised him, for in nine cases out of ten it did not cost a cent more to breed and rear the good one. At $50 per head it means at a very low estimate a loss of more than a million dollars in 1911 alone on the draft horses marketed at the six leading markets in the West. Had all the draft horses offered on these six markets in 1911 been so bred and fed as to reach the standard of the 5 per cent that were good, the farmers who produced them would have had at least a million dollars more in pocket.

During the week ending October 21 the demand for sound draft horses was as strong and prices as good as at any time during the year. One gray five-year-old Iowa-bred gelding sold for $500, a thin roan five-year-old gelding bred in Illinois brought $400 and numerous pairs sold from $650 to $700 on the Chicago market; yet at the end of the week 400 horses were carried over for lack of buyers, and Harry McNair stated that they could not be disposed of, even at considerable loss. John S. Cooper, Harry McNair and others emphatically declared there was not a sound horse in the entire 400, and scarcely any of them were up to draft weight.

Why are four-fifths of our draft horses as offered on the market, below standard? Lack of breed and lack of feed spell the story. Detailed figures from ten states having stallion registration boards show only one pure-bred draft stallion where there should be three, and a large proportion of those in use are unworthy. Many colts that are well bred are half-starved during the first two or three years of life, and never do grow out properly. Draft horses bred right and fed right sell the same way.

That we can produce as good horses as can be bred anywhere in the world cannot be doubted. The American Clydesdale breeders have demonstrated their strength in many years of hard-fought show-ring battles, have matched the best Scotland has produced in stallions, and have twice won the stallion championship at the International. They have more than equaled the mother country on mares, having won the championship nine times out of eleven International shows. Shire and Belgian breeders are fewer in numbers, and have accomplished less, but have shown splendid promise in colts and yearlings.

American Percheron breeders are particularly proud of Big Jim, for seven years the bright star of the Armour six-in-hand, an American-bred gelding with four years of International championship honors to his credit, in which time he met and defeated the champion geldings of the old world, which were imported especially to humble this grand old warrior of the show-ring.

In addition to honors won on this famous gelding American breeders have done much with breeding stock. American-bred Percheron mares have won championship honors at the International seven times out of the eleven shows so far held, though hotly contested by the equine queens of France. In the Internationals of 1906 to 1910 inclusive, considered by good judges to be as strong as any five Percheron shows ever held here or abroad, American-bred mares have won more prizes than the imported ones in classes where both have competed. Considering only the aged, three-year-old and two-year-old mare classes, the American-breds have won thirty-one prizes out of sixty awarded, and three out of five championships.

The intelligence and ability of American Percheron breeders have been fully demonstrated in the triumphs of geldings and mares, and while so large a measure of success has not been reached in the stallion classes American-bred Percheron colts have in the past two seasons repeatedly demonstrated their right to rank as ribbon winners in the keenest competition of our greatest shows. Although none has yet won the coveted purple at the International exposition, it will be undoubtedly only a matter of a brief time until our breeders will produce a champion stallion.

American-bred mares running out in pasture from birth to maturity, but liberally fed are draftier and heavier-boned than those of the old world. Our geldings are reared the same way, and they are unequaled. The majority of American-bred stallion colts, however, are confined to small lots, or to the barn after they are yearlings. **This is a hint to the wise.**

"America's horsemen have far more to learn from the old world in feeding than in breeding" is the oft reiterated statement of R. B. Ogilvie, who has bred and fed many of the greatest Clydesdales ever seen in American show-rings. It was one of the colts of his breeding that won championship honors at the International, and he was both "bred and fed." That the "laird of Blairgowrie" is right, no one familiar with the situation can doubt.

For forty years we have been drawing freely on Europe for draft stock, and for the past ten years it may fairly be said that importers have brought many of the best representatives of each breed. Our farmers on the average are more intelligent and more attentive to the fine points in breeding than the horsemen of the mother countries. The American's success in breeding cattle, sheep and swine, equal or superior to any produced elsewhere in the world, demonstrates his knowledge of breeding, and as he has had the best seed stock in horses from abroad, it is evident that the chief fault is in feeding the colts bred.

The yearling Percheron colts shown in the National Futurity Stakes at the Iowa State Fair this past season would average over 1,400 pounds each, and none of these colts was over twenty months old. The twelve winners must have averaged close to 1,500 pounds each, for there were a number in the line with weight in excess of that; and it must be borne in mind that these colts were not fat, but were large of frame and strong of bone, lusty, well muscled youngsters that had been liberally fed from birth. Blood does its part, but feed must also be reckoned with.

Robbie's inquiring mind led him to ask father, a couple of years ago, why it was that a two-year-old pure-bred draft stallion purchased for $2,000, cost almost six times as much as could be secured for a grade gelding that had just been sold; while a good young bull purchased a short time before had cost only two and a half times the price of a fat steer. The joint investigations of father and son finally satisfied them that it was because good pure-bred horses were fewer in proportion to demand than pure-bred cattle, sheet or hogs. They also learned that this scarcity was due in part to the fact that no special effort was made to improve the draft stock of the United States until 1851, when Percherons were imported; that practically no Shires or Clydesdales were imported until 1870, and few Belgians until 1888. They found that eighty Percheron stallions and mares had been imported prior to 1870 and that only 4,000 had been brought over by 1884. It was apparent to both of them that the breeding of draft horses in America has had only about thirty years of real development.

They learned that the number of pure-bred draft horses was very small in proportion to the total number of horses in the United States; that there are living only about 65,000 Percherons, 16,000 Clydesdales, 18,000 French Draft, 8,000 Shires, 7,000 Belgians, and about 1,000 Suffolks, or a grand total of only about 115,000 head of pure-bred draft horses, when all draft breeds are considered. This means that there is but one pure-bred draft animal to every 167 horses found on the farms and ranges of the United States—a proportion so slight that it is not surprising that the percentage of good horses coming to market is appallingly low.

Reflection on these matters and due consideration of the fact that there is a wider spread between the prices of grade and pure-bred draft horses than in other classes of live stock, led the senior member of the firm to suggest that they get some pure-bred mares to help in the farm work, and the suggestion was so heartily received by the junior partner that four good pure-bred mares were straightway purchased. Their value has already been demonstrated in farm work accomplished. Two good yearlings and three foals testify to their matronly qualities, and more mares are to be purchased, for the father believes that the work of breeding, rearing and training pure-bred draft horses is not only profitable from a financial standpoint, but of value in developing the best qualities in his boys.

A COMMUNITY HOBBY.

BY CARL N. KENNEDY.

(In The Homestead.)

The community that makes its influence felt today is the community with a hobby. Polk county, Iowa, is such a community. Its hobby is the draft horse. Alleman, a small town north of Des Moines, is the center of this county. As a town it is not much of a place, but as the center of a draft horse territory it is a capital. Professor Wentworth, of Iowa Agricultural College, who judged the Alleman horse show this year, said: "This is the greatest show of grade draft horses that has ever been collected in Iowa or any other state."

This year there were 120 head of horses out in competition for the prizes. To make the judging more satisfactory, the colt classes were divided up according to their respective breeds. In the Percheron class there were twenty entries, in the Shire Class there were eighteen, and in the Belgian class fourteen. When the aged class came it furnished the largest total, having twenty-three of the finest mares of the county. Many of them have been prize winners at the state fair.

Another town in this community that has done more than even Alleman is the town of Ankeny. For several years they have held horse shows. The pride of this neighborhood seems to be in good horses. The farmer who drives into town on Saturday afternoon with a large sleek team hitched with good harness, is the man who is most talked about. The young man who can boast of a team that has won prizes is envied by the other fellows, for even the girls appreciate good horses.

Madrid, a town that is just on the edge of Polk county, also has a thriving colt show. It was here that the first colt show in central Iowa was originated. One stallion owner, who wanted his friends to compare their stock, and to appreciate and take care of their colts, was its originator. Now it has grown larger than this. The business men of the town and the people of the whole neighborhood boost and support it. It has done a great deal to arouse interest in good stock.

The plan which this community has used to make its horse shows so popular, is valuable enough to be looked into with some detail. It is largely the following plan that has made this hobby so effective. The first thing is to appoint a committee that has the boosting spirit. They divide up the territory and canvass for prizes and prize money. Their success in getting prizes is largely dependent on the way that they go at it. They go to the merchants and get goods for prizes, and to the bankers and local stockmen for money. They are successful, as they generally get from $150 to $300.

On the day of the show the entries do not close till as late as possible so that everyone has a chance to get in without any more trouble than is necessary. Room is hired in which to place as many of the horses as possible. The others are tied in protected places. The main street of the town is the judging arena. On the sides the men, women and children line up and watch the placing with as much interest as college students watch a football game. The horses are lined up, then moved for the judge, and finally, when he places the ribbons, the clapping of the hands makes the winner feel like the popular hero. The judging is always done by an expert and in this way there is no chance of personal influence coming in. Local judges very seldom give good satisfaction, for they are either prejudiced or the people think that they have special friends and are favoring them.

The committee always plans to have ribbons as well as prizes for the winning stock. The people are generally as proud of these as they are of the money that they get. I have often seen a boy or young man take great pride in showing visitors the ribbons won at colt shows. The ribbons should show the name of the show, the date, the class, and the position won, namely, first, second, third, etc.

The results of the show are always made public. Photographs are taken of the stock. The list of the prize winners and their owners, as well as short, breezy write-ups of some of the best stock, are published in the local papers. This aids the show the next year, for then the farmers are watching the papers for the announcements of when the shows are going to be held.

These shows have done a great good for the community. One of the most important of the benefits has been the interest aroused in good stock. Already many of the farmers are thinking of purchasing full-blood stock. They clearly see the difference between the colts from the well-bred sires and from those of the poorer horses. At present, however, the shows are limited to the grade horses, for they are shows where all the farmers can meet on an equal basis.

Thre is also a great financial benefit from these shows. When so many good animals are led out in shows it cannot be kept a secret. It is a means of advertisement from which the whole community reaps a benefit. At present Polk county is noted for her draft horses. One noted horse buyer, when asked where was the best territory for picking up a bunch of horses, said, "Polk county is the place I always visit when I am looking for a bunch of real good horses." Such a reputation as this means that the farmers can command a larger price for their stock.

Besides being a paying proposition, the big thing, as one man put it, is that these shows create a community interest. The shows afford the men and women a holiday when they bring their stock together in friendly competition. They find which is the better and go home feeling good, and in the meantime boosting for their town. It also gets everyone to co-operate. The business men boost with their farmer friends. The farmers get the habit of trading with their home merchant and there is patriotism aroused for the home products.

These shows also lead to more social intercourse among the farmers. They have formed a meeting place for the people to get acquainted. The farmers will meet together and talk over neighborhood problems. The farmers' wives will become acquainted with each other. The boys and girls will plan for some social activity. In fact, the friendships that have been formed at these shows have grown into other activities so that the life on the farm is not so tiresome or so lonesome.

These meetings of the farmers have also caused them to talk of their community betterment. The roads are now better than they used to be. In fact, the whole community seems to be on the uplift. It is known to be progressive. Some other hobbies besides horses are working in. Other live stock is given better attention. The dairy cow, with more intensive methods, is gradually coming to the front.

Co-operation is the watchword of the hobbies of this community. Other places over the state are making similar progress with their live stock shows. In every place the effect on the neighborhood has been beneficial. It is reasonable to believe that other counties will soon adopt a similar hobby, perhaps not of horses, but of cattle, or hogs or some other form of live stock, for the principles that apply to the one apply to the other equally well.

SELECTION OF BREEDING STOCK.

BY W. J. KENNEDY, IOWA STATE COLLEGE.

No man ever has succeeded and no man ever will succeed for any length of time in the breeding of live stock who does not have as his slogan the word "Utility." Almost a century ago, Amos Cruickshank, "the herdsman of Aberdeenshire," said: "The real test of value in beef cattle is their ability to turn straw, turnips, and cake into pounds, shillings and pence at a profit." When ridiculed by his fellow-breeders because he overlooked fashionable pedigrees and color markings, he replied that the only question in his mind was, "What is best for our country, our agriculture, and our people." It would be a Godsend to our American live stock interests if we had today a thousand Amos Cruickshanks, so that we might put one in each of the thousand counties which constitute our Corn Belt states. The useful animal has always been a money-maker and will continue to be so in the future.

No man ever has succeeded and no man ever will succeed for any length of time in breeding live stock who attaches his kite to "faddism." We do not need to mention any one particular individual to demonstrate the folly of such work. There is hardly a county in any live stock section of this country or any other country, which has not anywhere from one to twenty men who have clearly demonstrated that "faddism" is always a forerunner of failure. By "faddism" I refer to the tendency on the part of many men to disregard the really useful features on an animal and go to the extreme on certain blood lines, color markings, shape of ear, head, etc. I do not wish to be understood as being opposed to beauty of form, color or general appearance. I am not. In fact, I always like to see these things when combined with the utility points. But, if I had to sacrifice something in selecting a breeding animal it would be the fancy points and not those which indicate utility.

The longer I study and handle live stock the more I become convinced that the first and most important point to be observed in all meat and milk-producing animals, is a good middle. The signs of constitution and digestive capacity present their most visible manifestations in the body and not in the extremities. The animal is simply a machine to convert feed into more edible products such as meat and milk. Its capacity is governed almost solely by the size of the middle. These are points which mean dollars and cents to every man who handles live stock.

We must pay more attention to the question of size and vigor in our animals. Size always has and always will be a vital point. It is usually associated with heavy and economical gains. Vigor is absolutely essential. It is associated with heavy gains and also helps to safeguard the animal in time of disease outbreaks. One of the chief causes for deterioration in both size and vigor of our animals is the use of immature sires and dams for breeding purposes. While both sire and dam exert an influence, it has been clearly proved that the immature dam is the most detrimental to progeny. The continued use of immature sires and dams, especially where corn rations are fed, will seriously reduce both the size and vigor of any breed or class of live stock. Anything which lessens the size and vigor of the animal renders it less profitable on high-priced land. Too much attention can not be given to the importance of selecting breeding stock from mature parents. In this way, and only in this way, can we retain size and vigor in our herds and flocks.

DRAFT HORSES.

The man who succeeds in breeding draft horses must ever keep in mind size, quality, feet, legs, and action. These are all utility points. The markets demand horses weighing 1,700 pounds and upwards that have good body conformation, large feet of good texture, strong, clean bone; large, sound joints; heavy muscular development, combined with good straight, snappy action. Such horses command high prices and are very scarce. The statistics for the year 1911 show that one horse out of every twenty, sold at our leading horse markets, filled the bill. This is surely a good line of work to pursue for many years to come. The vast majority of our farmers make a serious mistake when they sell their good draft mares to go to the cities. A good draft mare is worth twice as much on any farm, if she is used for work and breeding purposes, as she will sell for in any horse market. Only mares of good weight, good body conformation, that are absolutely sound should be retained for breeding purposes. It is very important that the stallion used should be sound and drafty, stand well on his feet and legs, short and straight in his back, heavily muscled, and show good disposition as indicated by width and flatness of head between the eyes. Avoid unsound, small-footed light-boned, crooked-legged or shallow-bodied stallions.

BEEF CATTLE.

The profitable beef animal of the future must have size, large heart girth and middle, giving constitution and capacity. He must also be low set, straight in his lines, heavy in the quarters, wide in the back and loin, and carry a good covering of natural flesh over these parts. The head must be short and wide between the eyes, the neck short and shoulders smooth on the sides and wide on top. Width on the top of shoulders goes with good fleshing properties throughout. The hide should be soft and pliable. These are all utility points We must ever keep the block type in mind, because the block is the ultimate end of all beef cattle.

DAIRY CATTLE.

In selecting dairy cattle it is always difficult to judge accurately with the eye. The real test must be the weigh scales and the Babcock tester. The cow is a machine to convert food into milk, thus she must have a large middle and a strong constitution to insure best results. She must also have a large udder, large milk wells, large, crooked milk veins, and good sized teats. Her head should be lean and angular in appearance with the eyes standing out prominently. The neck should be rather long and lean in appearance, the shoulders pointed, and the back-bone rather prominent. The skin should be loose and soft to the touch. In selecting herd bulls, either mature animals which have already demonstrated their worth as sires, or younger animals from high testing dams and sires, only should be used. Remember that the best and surest results will always follow the use of a mature sire which has sired heifers with good records. A good dairy bull should be kept until he is twelve or fifteen years old; in fact, as long as he is a sure sire. Real good sires are so rare that when we do find one, he should die only of old age. All breeders of dairy cattle should secure yearly tests on each and every cow in the herd. Shorter tests do not really mean very much. It is the cow that stays by her job that is really valuable.

SHEEP.

Few lines of work offer greater financial returns for the capital invested than a good flock of breeding sheep. This is especially true when good mutton conformation is combined with a long, dense, fine fleece. The question of constitution is very important in sheep. In selecting rams, blockiness, lowsetness, wide backs, loins, and heavy, well-filled hind quarters should always be demanded. The head should be broad and masculine in appearance, the neck short and the shoulders broad and compact. The legs should be short and straight, especially at the hocks. The skin should be pink in color and the fleece long, dense, fine, and uniform on all parts of the body. Too much attention cannot be given the importance of density of fleece. It insures a heavier clip of wool, protects the sheep from rain, snow, and cold weather and also sheds chaff and other foreign material so detrimental to the wool.

HOGS.

Breeders of hogs will do well to pay more attention to the utility end of the business and much less to the fad end as illustrated by the pedigree craze, shape of head, ear, nose, dish of face, etc. The one great need today in the hog business is a hog with size, quality, and prolificacy combined with early maturity. Such a hog is best described as the kind that never lies to the assessor, that is, he is born after the assessor is around this year and marketed, weighing three hundred pounds, before the assessor comes back next year. Some such hogs may be found in almost any of the well-known breeds. With careful selection and judicious mating it is surprising how rapidly this type can be revived. In addition to the evil results of "faddism," the exclusive use of a corn diet and the policy of breeding from immature sires and dams has been detrimental both from the standpoint of size and prolificacy. It is safe to say that over 75 per cent of all the sires and dams used in the state of Iowa are under one year of age. It has been clearly proved by experimental work that pigs from young sows are inferior in every way to those from mature sows. The continued use of young sires and dams, especially when associated with corn feeding, will cause marked deterioration in any breed of swine.

In selecting breeding swine, attention must be given to size, quality, strength of bone, evenness of fleshing, and the use of more mature boars and sows. All pigs intended for breeding purposes should be selected from well developed mature sows. If the sires are mature animals, so much the better. These pigs should be fed on rations calculated to produce bone and muscle, not fat alone. In this way we could materially improve our swine herds without changing breeds.

In conclusion I wish to once more emphasize the importance of utility in all classes of stock. Beware of "faddism" in any of its various forms. Demand masculinity in the sires and femininity in the dams. Also remember that the best results can only be obtained where careful selection is combined with intelligent mating and the proper feeding and management of the animals.

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* Extracts from Professor Kennedy's address before the February, 1912, meeting of the Interstate Breeders' Association at Sioux City, Iowa.

BEST METHOD OF FATTENING HOGS.

BY J. H. WILLIAMS.

Do you all realize that this is the most important industry in Iowa? One-seventh of all hogs packed in the United States are raised and fatted in Iowa. The hogs of Iowa pay more freight, pay more taxes, build more homes, buy more land, bank more cash than any other industry. Then it is very proper to discuss this question as often as possible.

Having thirty years' experience, with only one year's crops of pigs lost by cholera, my methods are, perhaps, worthy of passing notice.

First, to have good hogs to feed you must have good pigs from full grown, mature hogs, both male and female. I am not a breeder of fine stock, in the general acceptance of the term, and just raise hogs for the fat hog market. I don't think there is any method that will win with the Berk but will be equally good for the Poland China, Chester White or Red hog. I have raised all of them separately and collectively, and many different crosses, and always with the same success, according to feed used. But whatever breed you choose, get the best male hog every time—not always the most costly, but healthy, strong and vigorous, good bone and rangy.

The feeding before and after pigs are farrowed is the most important thing in the whole hog proposition. Raise and feed all the pumpkins you can and feed them in connection with a little corn; two or three ears of corn with two or three good-sized pumpkins per head and plenty of range is an ideal ration for sows. In the fall, pile and cover your pumpkins to keep them as long as possible for brood sows. When the pumpkins give out you must begin to slop. Thin slops, about two to four gallons per day, with an ear or two of corn, will be plenty, and if they commence to get too fat, cut out the corn; and if you slop with white shorts, low grade flour, or rye or corn chop, cut dry corn out altogether. I think red shorts or germ middlings and clean, fresh well water make the very best feed for brood sows and pigs. Of course, use all the dish-water, skimmed milk and buttermilk.

Let your hogs have all the range possible. Clean every field after harvest. Fence every field hog tight. Nearly every field of small grain last year had loose and scattered grain enough to pay for fencing; the grain was too short for the binder to gather and bind it properly.

Have your pigs come all as near the same time as possible. If you have good shelter, good houses the last of February or any time in March is the right time, but they will require close attention. If you have not every convenience, better wait and not have the pigs arrive until warm weather, in May and June. But whenever they do come, be right there or close about all the time. Stay up nights and up early next morning. In this way you can frequently save from one pig to sometimes the whole litter.

Another thing, average up your litters by taking pigs from the big litters and putting them with the smaller litters. I have tried this often and nearly always with success, but not after the pigs are more than four or five days old. At this time better leave the corn out of the feed for a few days. Feed nothing but clean water for two or three feeds, then a little thin slop or bran, red shorts or germ middlings, and gradually increase the feed and in a week or ten days have sow back on the same kind and amount of feed as before farrowing. An individual trough is handy, if weather is not too cold, and keeps water by her for first week. As soon as the weather gets settled get the sow and pigs out on grass. Feed careful and never give sow over three ears of corn twice per day. Increase the slops until the sows get nearly a pailful of slops twice each day. Don't try to slop with rye or corn. Use any other grain, and if you have your own grain ground see that it is ground fine. Feed each sow and pigs separately as long as possible. This must be done to prevent robbing. It is unhandy and takes time to feed each sow and litter separately, but it pays.

By this time your sows and pigs are all out on pasture and coming up to one central feeding place. Arrange two slopping places: one so that the little pigs can creep under a board or through a hole and get to a feeding trough away from the mothers. A little shelled corn and slop will soon teach them where to go. Then feed both at the same time, pigs first. Keep this up all summer. Give pigs a little bit of dry corn every day. I say dry, because it is better than soaked corn. Cracking and chewing that little handful of dry corn is the very best thing for the hog's teeth and digestion that he will be so much in need of later on. As your pigs increase in weight, increase the slop feed to about all they will eat up clean twice a day. When pigs are six to eight weeks old cut down on sow's feed, slowly but surely down to one-half ear per day and water to drink, then she will wean her pigs.

Now, right here is the place that more pigs are runted or stunted than at any other time in the life of the bunch. The farmer is busy laying by crops, making hay, harvesting or threshing, and then is when the pigs are neglected. Don't do it. Fifty cents' worth of feed per head, in addition to what the average farmer feeds the first five or six weeks, just after weaning time, will add from three to five dollars per head at selling time. I do this every year and still let them run in the same pasture and never feed brood sows much; are never fat, and it is a root hog or die game with them from now on until pumpkin time again. But I keep sows nose rung all the time: it is both safe and economical. The drier the summer the more you must slop.

Now when the corn gets well dented turn all the young hogs right in the cornfield. Smallfields are preferable. Divide or fence off a few acres. Cross fences can be made with a post every four or five rods, and use good stout hill of corn for other posts and twenty-eight inch woven wire.

Keep up that everlasting slopping until the hogs have got to tearing the corn right good, then decrease the amount of slop and gradually use all water instead of slops. If there is running water in the field, so much the better; they will do fine and eat lots of stuff like parsley vines and late weeds that would be lost entirely with any other process of feeding. If you pursue this plan no lessons or professors will be required to tell about cutworms, corn-root worms, wire worms, corn-root louse, etc.; they will disappear.

Keep running them in the corn as long as weather holds, or until winter begins. If you get your last field done by the middle of December better not turn them in another; they will clean up every grain of corn. After like feeds somewhere else if they are allowed to go back the memory of the great times they had tearing down that corn still lingers and they will continue to go back to the field where they have spent their most happy and profitable days. After this feed any way you want to so the hog gets all the corn and water he wants at least once a day. Feed oftener, or any way you choose, it doesn't make any difference so he has a chance at the corn. Let the hog determine how much he will eat. You can't affect or change that and get any better results. Always furnish a dry place to sleep. Get all the coal and wood ashes possible, or charcoal. It is not necessary to pen up fattening hogs.

I have never used any dip of any kind. Never used medicine of any kind; neither oil meal, tankage, blood meal, condition powder, or stock feed of any kind, make or description. I never used a feeding flour but can't see any objection to a cement floor, if it is left rough so hogs would not slip.

Keep from running young hogs, if you can. As long as the weather is good haul corn out in the field or pasture and feed all you want to, and any way you choose. Once a week, or twice a week, or every day, or two or three times a day. I think the hog rather likes to go after his feed.

It really seems more natural. Don't feed too close to sleeping quarters; the hog will be clean if you give him a chance. I like fresh-pumped water for hogs all the time. I think most of the above plans are best for the best methods of preparing and fattening hogs for market.

PREPARATION OF CHOICE HAMS.

Farmers' Bulletin 479, U. S. Department of Agriculture.

CURING.

Home curing of hams is probably not as general as it was in former years. Still it would seem that no farmer who raises hogs should be without the knowledge required to prepare hams of good quality at least for home use. The process is comparatively simple and requires no special skill. As pointed out by E. W. Magruder, of the Virginia State department of agriculture, the essential conditions which must be realized are healthy hogs and sound meat.

To secure the healthy hogs, give them plenty of range with as great a variety of food as possible, and plenty of good, clean water. Smithfield hogs are allowed to run at large most of the year. If you have woods to supplement your pasture, so much the better. The hogs then obtain a variety of food, as nuts, berries, roots, and grass. In hunting over the large range they take sufficient exercise to keep them healthy and develop and enlarge the muscular tissues, that is, the lean meat, but as the work is not hard, the muscles grow without becoming tough and stringy. Allow them a good range up to the time of killing, and do not fatten them in pens. They fatten as well when left out in the fields and keep healthy. As they fatten they travel less, but this travel converts much of the food into muscle or lean meat instead of altogether into fat, as is the tendency when penned, as illustrated by the western meat. To have the best meat and that which brings the best price and which has the best flavor, and with the fat and lean properly intermixed and proportioned, you must let the hogs have plenty of exercise and then kill them before they are too fat. Have them fat, but not so fat they can hardly walk. There is no economy in having them too fat, and the meat is not so good.

To secure sound meat "be careful to kill only in cold, frosty weather. After November 1 is safest. Allow to hang up all night to drain and thoroughly cool. The hog cuts out nicer and keeps better if stiff when cut out."

There are various excellent ways of curing the hams. The following, used for many years with success on the farm of Col. Chas. Schuler, commissioner of agriculture of Louisiana, is described in a bulletin of the Louisiana station:

When hogs are fat, select any time during the month of December, January, or first half of February, when weather is clear, wind from the north to northwest, with the thermometer registering below 35° F. at sunrise. Have your water hot and scald as soon as hog is dead. Hang up and disembowel the animal just as soon as it is cleaned. No butchering animal should ever be permitted to cool off until after it is disemboweled Cut up the carcass as soon as it is through dripping. Saw or split the backbone. Let it and the spare rib remain on the side, and make them as long as you can. Hams and shoulders small. Hams to sell readily should weigh from 15 to 18 pounds. * * *

To half bushel fine salt add half pound pulverized saltpeter, 1 pound finely ground black pepper, 4 pounds brown sugar; mix thoroughly. Rub ham with mixture. Pack in box, skin side down. Apply double handful of mixture to flesh part of each ham. Then apply plenty of clean salt, never permitting the meat to touch, without salt being between, covering all parts and filling every crevice, and let them remain in the salt six weeks.

After being in salt six weeks, select a clear day, string each ham, and dip in a boiling solution of 1 pound borax dissolved in 15 gallons of water and hang up high in a dark smokehouse (the higher the better) and smoke, using green hickory wood. Smoke daily for two weeks or more, as preferred. By April 1 at latest, hams should again be dipped in boiling water, to cleanse them from all impurities, wrapped in paper, then cloth, and this painted with some cheap mineral paint. Hang up again and leave until used or sold.

Two methods which have been successfully used by Virginia farmers are described by Dr. Magruder as follows:

(1) On the fleshy surface of each ham rub in thoroughly fine saltpeter; use one tablespoonful to a 15-pound ham, and vary the amount according to size of ham. Then pack away for 4 to 6 hours, with flesh side up, in order to give the saltpeter time to strike in; then take up and rub well with salt and pack away, using plenty of salt. As they are packed away they should be pressed into plump, symmetrical shape while soft. Pack near top of bulk, and never over 2½ or 3 feet deep. If they are packed deep and have other meat put on top of them, they will be mashed flat and out of shape. They remain packed in plenty of salt for 6 weeks, when they are taken up, well washed, and when nearly dry about one teaspoonful of powdered borax is sprinkled over the fleshy surface from a large pepper-box. The borax is to keep off skippers. They are then hung up by the hock and smoked lightly on damp days with hickory chips. When about 9 months old they are sold. The hogs average about 180 pounds, making hams from 10 to 18 pounds. * * *

(2) Salt lightly one or two days to bring out blood; then to each 100 pounds of hams use 8 to 10 pounds of salt, 2 ounces saltpeter, 2 pounds brown sugar, and 1 ounce of red pepper; add to 4 or 5 gallons of water in a tub and thoroughly mix. This brine should be strong enough to float a fresh egg. Place hams in a tight barrel and pour brine mixture on till hams are all covered. After remaining in brine 4 to 6 weeks, hang up by hock and smoke gently several weeks with hickory chips. Early in March, before warm days, when flies begin to move, wrap each ham in paper and put in a bag and rehang. By late summer the hams are ready for market.

The method of preparing the famous Smithfield hams of Virginia is fully described in a report of the Bureau of Animal Industry of this department. The method of curing is there described substantially as follows:

The flesh surface is sprinkled with fine saltpeter until the hams are as white as though covered by a moderate frost; or, say, use 3 or 4 pounds of saltpeter to 1,000 pounds of hams. Immediately salt with fine Liverpool salt, covering the entire surface. Pack the hams in bulk, not deeper than 3 feet. In ordinary weather they should remain thus for 3 days. Then break bulk and resalt with the fine salt and again pack in bulk, and each ham should remain in bulk one day for each pound the ham weighs; that is, a 10-pound ham should remain 10 days. The hams are then taken up and thoroughly cleaned by washing in warm water. When nearly dry rub the entire surface with fine black pepper. The hams should now be hung up and gradually and slowly smoked for 30 or 40 days with hickory or red oak. When the smoking is completed they should be repeppered and bagged to guard against vermin.

It is stated that "these hams improve with age, and may be considered perfect when one year old."

Commenting upon methods of curing hams. Dr. Magruder says:

The saltpeter is used to give the ham a good, red color, to make it firm, and also as a preservative. The salt, of course, is used as a preservative, and plenty of it should be used, as the excess will not hurt, and not enough will allow the meat to spoil. When packing in bulk, be sure to press the hams into a plump, symmetrical shape, and do not have the bulk over 3 feet high, otherwise the weight will flatten out the lower hams and spoil their shape. The plumpest Berkshire ham can be spoiled in shape by improper packing. Pepper and sugar are added, presumably to improve their flavor, but I have never seen that they improve them any, and I advise against sugar or molasses, as it is more trouble and attracts flies. The pepper may be used if desired, as it will do no harm and may help to keep off skippers. The borax is added to keep off flies, which lay the eggs, which hatch into skippers, and if properly applied is a sure preventive. Bagging is for the same purpose, but unless done early and thoroughly before the flies come about it is ineffective. It is troublesome. The smoking, which should be done in damp weather, is supposed to serve several purposes. First, to dry the meat and thus make it keep better; second, to deposit a little creosote and other ingredients from the burning wood on the bacon, which improves its keeping qualities, and also supposedly improves its flavor. In my opinion, the object in curing should be to preserve the ham, keep it sound, and then let it retain all of its natural taste and flavor and not try to add flavor and taste. The natural ones, when preserved in their purity, are good enough without trying to add to them artificially.

In hanging meat care should be taken not to allow any two pieces to touch, for if so they are liable to be infested with skippers. Hams should not to be eaten until at least six months old. When two years old they have reached their prime. Many claim they still continue to improve for many years, but I very much doubt it.

COOKING.

As Dr. Magruder states, "after the ham is cured one of the most important operations must be gone through with before it is ready for the table—that is, the cooking."

The hog may have been raised right, fattened properly, killed at the right time, and cured as it should be, but if it is not cooked properly the previous work is all in vain and the ham is not good. * * * A large ham—say 18 pounds—is much better flavored, sweeter, and more juicy than a small one—say under 8 pounds.

Wash the ham thoroughly, then soak in cold water several hours, the time varying with the size of the ham. This soaking is to dissolve out the excess of salt. The ham is then put in the boiler full of boiling water. The temperature should then be lowered slightly and the boiler just kept simmering. Keep the water just barely boiling for 4½ hours for an 18-pound ham; that is, a quarter of an hour for each pound of ham. If the hams are larger or smaller, vary the time to suit the weight. As the water boils out, add fresh boiling water, and always keep the boiler full. For very large hams it is advisable to cook in two waters. Why should the ham be put in boiling water? Portions of the lean meat, the albumin, and some of the juices and flavors are soluble in warm water, while boiling water coagulates the albumin just as it does the white of an egg. So, if put in cold water and heated to the boiling point, some albumin and much of the delicate flavors which are so sought after in hams would be dissolved out by the water as it warmed up to the boiling point; but if put into boiling water, the albumin is coagulated at once on the surface and all the juices and flavors sealed in and kept there till eaten. While cooking, the ham is just kept at the boiling point of water, which is sufficient heat to cook it thoroughly without separating the fibers or "boiling it to pieces," as a rapid or hard boiling would do.

POULTRY AS A SIDE ISSUE ON THE FARM—HOW A CHANGE FROM GRADES TO PURE BREDS IN POULTRY RAISING INCREASED THE PROFITS AND MULTIPLIED THE PLEASURES INCIDENTAL TO BUSINESS.

BY R. B. RUSHING.

(In The Homestead.)

There is hardly a farm to be found anywhere but what keeps a few chickens as a side issue, but I am led to believe from my own experience and much observation that there are few farmers that deveolp that side issue as it should and, in nearly every case, could be developed. In passing the farm you will see some chickens, and, by the way, often nowhere for them to spend these cold, rough days when the ground is covered with snow and sleet.

I know an Illinois farmer who is developing this branch of his farming, I believe, as well or better than I ever saw it developed and worked out in common practice. He does not look upon the chickens merely as something that can produce profit without equal attention as the other things on the farm, but he classes them as a branch that needs the same good care and attention that his dairy does. The owner in this case has come to the conclusion that he can make the poultry branch of his farming pay a much greater return on the investment than the cows.

Up to three years ago this man had never given any special attention to the poultry, but had been running a small dairy for a number of years and had always kept a good many hogs to consume the skim milk, but usually had a small surplus of milk and his good wife had been feeding it to her mixed-up flock of hens. There came a time when she suggested that they dispose of the mixed flock and get some good blood, and, man-like, the husband rather kicked at first, but as she had the money of her own to get a few he told her that if she cared to get them without breaking in on him, all right, but he did not care for them very much. One dozen full-blood White Leghorn hens and a male to mate with them were purchased, and as this was nearing hatching time she ordered a small incubator—I believe she had a 100-egg size—and early in March she set her machine with White Leghorn eggs. Now here is a point I think well worth considering in poultry—that is, make a specialty of something. She said that as the Leghorn was an egg specialist and the incubator was a chicken specialist she thought she had the right combination, as she could hatch them out when she liked, and, as she wanted to get them out early in order to have winter layers, the incubator was the only thing that could be depended upon for that.

This same woman is today the manager of the poultry business on this farm, but she now has the hearty co-operation of "the man," as he can now begin to see the "handwriting on the wall," so to speak. With plenty of cane seed (I might add that they own a molasses mill and raise lots of cane), sunflower seed, sheaf wheat and oats, and a supper when it is cold from the corn crib supplemented mornings by the table scraps and skim milk, this lady was able all winter the first winter to get eggs. Not just a few as most all her neighbors were doing, but from only eighty pullets from her first two hatches she was getting after November 1st, three to four dozen eggs a day and continued so all through the cold months of January and February. This is something that had never before been realized at this farm. And, by the way, don't you think it enough to make any man sit up and take notice?

Always before from that number of mixed-up hens they did not get eggs at all. Now I don't wish to be understood as saying that it was altogether the fault of the hens for not laying before, but you see there is a pride in taking care of something nice. They had been let roost here and there always before, but who could stand it to see these nice, proud-looking White Leghorns take to the trees? They must be housed and housed so that they will not suffer. This housing, added to the feed of the mixed-up chickens, would perhaps have brought a fair yield of eggs, but the interest was not there. Any one of the special essentials of any branch of farming neglected will most surely turn what would be success into sore defeat.

Here is a man wholly carried away with what the wife is doing with her hens, and says she shall be afforded every means that will make for her success, but she shall remain as the manager of them. He can build houses according to her plans and furnish the feed in abundance as she wants, but wishes her to always have the say in the matter—not that he is afraid of his own judgment, but because she has made good and he already has considerable to manage.

This successful woman says that she wants but the one breed of poultry, as that would call for different methods of management, and she says that there is enough for anyone to study in the one breed. With her I agree on this point, and I could call the names of two or three men that became discouraged in the poultry business, I believe, just because they could not handle several varieties instead of just the one. They could not be content with one, and could not, or did not, successfully handle more. But I must go back to my text. The second year another incubator was purchased of the same make, but a larger machine, a 200-egg. This year she raised something over 250 pullets, but not all early enough for winter layers, however. I believe she said that she got about 200 out in time for November laying, and with her flock of the previous winter she had nearly 300 that were laying in November and early December. This was her second year. She had some losses, but the most was from the later hatches when the weather was hot.

I will not attempt to go into detail here as to how she handled the little chicks except that she raised them mostly in brooders without mothers, as the hens were not sitting at the time of the first hatches. Later she gave them to hens, but had more losses than from the early ones, and says that she does not feel very favorable to the incubator during the hot weather. It seems to her that they are better for cool weather than for hot.

There is considerable orchard and small fruit on this farm, and, of course, this is all in line with poultry. The by-products from the orchard and gardens are excellent for the hens. Recently when I was there they had some over 400 hens and pullets and from the noise they were making they are surely producing the eggs. Not having very much time to spend there I failed to secure exact figures on what this farm is producing in the line of poultry, but it is very plain to see that it is proving a very profitable side issue and also proves that no farm is complete without some good poultry, also that when pure-bred stock is kept that they are more likely to be cared for and everyone that is experienced will agree that much depends on their care.

The greatest need of the poultry industry in the grain belt today lies in the direction that improvement has been made in this case. When it is considered that poultry products to the extent of more than $600,000,000 are produced annually in the United States and when it is further considered that the greater part of this comes from inferior grade flocks, it is not unreasonable to suppose that merely changing in the main the system of breeding whereby breeds would tend to become pure, that alone would so interest those who care for farm poultry as to increase the value of the products possibly one-third or even one-half. The question may be asked as to where enough pure-bred poultry would come from to furnish foundation stock, and to this the reply would be that it would only take a few years at the outside to grow a sufficient supply providing it could be distributed into the breeding yards of the country rather than to go to the market in the form of meat products. We must first create an inclination on the part of poultry breeders generally to use a special breed, after which the problem will soon solve itself because the increased profit from handling a flock which approaches purity in breeding will soon justify and demonstrate the great need for discarding the old-fashioned grade fowl. But there is one step toward improvement which does not include the purchase of new foundation stock. Reference is here made to the plan of using a male of the same breed year after year on the flock that is already doing service on the farm. Because the first cross in the case of the breeding of a pure-bred male of one breed to pure-bred females of another is often superior to either breed, has created the idea that crossing is always desirable. As a matter of fact when you get away from the first cross the mongrel is the only result of promiscuous breeding. The two courses for improvement that are open are, therefore, first, the purchase outright of pure-breds either in the form of eggs for hatching or foundation stock, and secondly, the gradual improvement that may be wrought by the use of a pure-bred male of the same breed, generation after generation.

FEEDING FOR EGG PRODUCTION.

BY E. T. ROBERTS.

(Polk County, Iowa.)

The success we have attained in getting a high average of eggs in winter as well as summer, from our flock of White Leghorns, has caused many to ask what and how we feed, and especially has this question been asked since the close of the Iowa State Fair, where six of our little "White Leghorn ladies" carried off the blue in the egg-laying contest, with nineteen eggs to their credit in the five days.

Now, there is nothing secret or complicated about the feed we use or our method of feeding and otherwise caring for our flock. We are always glad to give any information that may be desired when time and opportunity afford, and it is with the hope that some of the readers of Wallaces' Farmer may profit by our methods which have been adopted after much practical experience that we give our method.

In the first place we use incubators and brooders, which enable us to hatch our chickens at the time we want them, which is about May 1st—not much earlier—nor later than the 15th. The pullets from these hatches will begin to contribute towards their support about October

15th. When the chicks are about two days old they get their first feed, a little chick grit, a little good chick feed, steel cut oats and water. They are fed but little at a time, but several times a day for the first few days. After the third day we give a little commercial beef scrap, with the coarsest sifted out, two or three times a day, and when they are about a week old we put a can of beef scraps in their brooder, also a can each of grit and granulated charcoal. These cans are kept well filled until the chicks are grown. When they are about two weeks old, a box of bran is also given them. This box is replenished daily. As Leghorns don't have to be hatched as early in the season as the larger breeds, there is always plenty of grass to turn our little ones on, and this solves the question of green food, which must be supplied in one form or another for best results. An abundance of fresh water is also faithfully supplied. The person who keeps poultry, or, for that matter, any living thing, and fails to supply an abundance of clean water, is not deserving of success. When the chicks are old enough to handle fine cracked corn and wheat, these grains gradually take the place of the chick feed, and as soon as possible I begin the liberal feeding of oats.

When the pullets go into winter quarters, about September 15th, their menu is changed a little. They get about the same material, but "dished up" in a little different form. The wheat, oats and cracked corn, about equal parts, are fed in straw to induce exercise, which is absolutely necessary if the birds are to be kept in a healthy condition. Then, instead of keeping bran, beef scraps and charcoal before them in separate compartments, they are mixed with low-grade flour and cracked corn, three-fourths beef scraps and granulated charcoal. This mixture is kept in a box or platform about eighteen inches above the floor, and the birds have access to it at all times. On this platform is also their water pan and grit and shell boxes. In the summer they are supplied with grass and rape for green food, and in winter we pour hot water on some ground alfalfa, let it stand a while, then stir in about four times as much of our dry mash mixture as we have alfalfa, mixing thoroughly and aiming to have the combination a crumbly mixture, barely moist instead of sloppy. This we feed five or six times in late fall and winter—usually early in the afternoon in troughs, all they will eat in half an hour or less. Then just a little before roosting time they get a light feed of the mixed grain, or if we are having cold winter weather, they get a liberal feed of corn. Now with a feed of mixed grain in litter at about 8 a. m., a small handful to each bird, moist mash and more grain in the afternoon, and the box of dry mash before them all the time, the birds are persuaded to eat not only enough to keep them in good condition, but enough extra to enable them to "shell out" a liberal quantity of eggs both winter and summer. No damaged grain or feed of any kind is ever used. The showing our stock makes we feel entitles them to the best there is, and we never cut out or cut down on any kind of feed because of the price of it. It costs us about $1.20 a year to feed a hen. Our special flock which we have been trap-nesting has laid 8,232 eggs in eleven months (November 1st to October 1st). This flock originally contained sixty birds that were hatched in May a year ago, five of the number have been disposed of. I figure the flock to average fifty-eight, which gives an average of 144 and a fraction eggs per hen. Not a bad showing compared with the report from the Agricultural College at Ames that the average hen in Iowa lays but sixty-four eggs in a year. Now we hope to show a better record than this next year, as practically all of our youngsters this season are from this flock. We find trapnesting very interesting, and it is certainly the only system by which a top-notch laying strain can be produced. Our birds are confined to limited runs from the time they are taken from the incubator, till they are disposed of, and we seldom keep a bird more than two years.

Now, before closing, I want to suggest that, while the feed has much to do with the production of eggs, you can't get a very liberal production from stock that is from poor producers, so if you are keeping a flock of common hens, thinking any old kind will do, keep tab on their cost, and you will find you have lost, for they are always in debt to you. Then get some good birds from some good-laying strains, and put them in clean, roomy pens, give them plenty to eat, lots of green food and meat; then you'll find there's good money in hens.—Wallaces' Farmer.

METHODS FOR PRESERVING EGGS.

BY H. H. SIMPSON.

(New Mexico Agricultural College.)

That eggs can be satisfactorily preserved for from eight to twelve months has been proven by numerous experiments. Of course, for the farmer who desires to keep only small quantities, it is necessary that the method be thoroughly practical, as well as cheap.

Contrary to the general belief that preserved eggs are usable only to a limited extent, they can be used in place of fresh eggs in a great many instances. It has been well demonstrated that eggs preserved for eight to twelve months in either of the two solutions which I outline here can hardly be told from fresh ones. After they have been kept for a longer period than this, the whites usually become more or less watery, and the yolks do not hold together so well; but they have been found to keep for from eighteen to twenty months, and still be usable for any purpose where the yolks are broken.

Many different methods have been tried, and with varying results. They include both liquid and dry methods, and among them have been the following: Dry salt, dry wood ashes, dry oats, powdered sulphur, ground gypsum, permanganate of potash, brimstone fumes and sulphur, salicylic acid, salt brine, vaseline, eggs dipped in melted paraffine and packed in some dry substances, eggs dipped in collodium and packed in some dry substance, eggs dipped in a solution of gum arabic and packed in a dry substance, water glass solutions of various strengths, and lime water and salt solutions.

If the eggs are to be kept only a short time, they may be packed in some of the dry substances, and fairly good results obtained; but these methods can not be depended upon for longer than two or three months. Greasing the eggs with vaseline has been found to keep them for three to four months, but some claim that the eggs absorb the taste of the vaseline. Salicylic acid, cottonseed oil and alcohol; salicylic acid and cottonseed oil; gum arabic, and collodium have all failed to give satisfactory results.

The two methods which have been reported satisfactory by a number of experiment stations are, first, the solution of water glass, and second, lime water.

Water glass is a soluble alkaline silicate of sodium or potassium, and can be purchased either in liquid or crystalline form. It is not expensive, costing about ten to fifteen cents a pound, and one pound is sufficient to preserve about fifteen dozen eggs, the cost being about one cent per dozen.

Various strengths of water glass have been tried, but it seems to be the concensus of opinion that a solution of about ten per cent gives the greatest satisfaction. The water used for the dilution should in all cases be boiled, and then cooled to an ordinary temperature. Then, to nine parts of water add one part of water glass. This may be kept in some sort of a vessel and poured over the eggs as needed.

For best results, it is absolutely necessary that the eggs be fresh when put in the solution. For this reason, store eggs are unsatisfactory, as you have no proof of their age, and during the warm summer days development may start in a few hours.

Any kind of large vessel that will hold water, and from which rapid evaporation can be checked will serve the purpose. The eggs should be put in the vessel as they are gathered, and enough of the solution poured in to cover them well. They should be covered to a depth of about three inches when the jar is full, and a fairly tight lid or board put on to prevent evaporation. Set in a fairly cool, dark place, and after a crust has formed over the top, do not disturb. If any of the water evaporates it will cause a sediment to settle to the bottom and cement the lower eggs together. To prevent this, keep adding boiled water as evaporation takes place.

For the lime water method, slake four pounds of good quicklime with five gallons of water, and allow to stand for a few hours. After the excess of lime has settled out, the clear liquid can be drawn off; and this is the solution to be used. Some stations recommend adding about two pounds of salt to the solution while hot, to give the eggs a better flavor. However, this is not necessary to preserve them. Sometimes it is necessary to add a small amount of lime after it has stood for some time, to replace what has been separated out by the action of air. As with the water glass solution, fresh lime water should be added as evaporation takes place.

With both methods, when it is desired to open the jars, the crust can be broken, part of the eggs removed, and a new crust allowed to form

In winter, the eggs will keep for two or three weeks after being removed from the preservative.

Eggs should not be washed before putting in preservative, as this removes part of the natural covering and will allow more evaporation from the eggs. All vessels should be thoroughly cleaned and scalded before being used. The secret of success in preserving is to use absolutely fresh eggs.

PROFITABLE POTATO FARMING IN IOWA—HOW ONE YOUNG MAN BECAME A SPECIALIST IN POTATO FARMING AND THE METHODS WHICH HE EMPLOYS IN HIS OPERATIONS.

(The Homestead.)

Making the most of discouraging conditions was the means of opening up to an Iowa farmer boy a field of operations that is leading him to unusual success. On his father's farm in Story county half a dozen years ago, C. A. Steward had a field of corn that was destroyed by cutworms. Chance led him to put in a crop of potatoes so that there might not be an absolute loss. It goes without saying that, although the young man had received no special preparation on potato growing, he did possess a particular adaptation to it, and a capacity to absorb knowledge of it from all available sources.

To a representative of this paper the young man recently reviewed some of the more important points of the department of farming in which he now finds himself a specialist, and they are here given as being of general interest. As in other crops, the preparation of the soil is made the operation of first importance. This is done as early in April as conditions will permit. On the theory that the quantity of moisture necessary to the production of a crop of tubers can only be relied upon by careful conservation of the entire available supply, the first step toward the attainment of that object is taken at plowing time. A reservoir is provided by plowing very deep. The ordinary plow having failed to reach a sufficient depth, Mr. Steward employs, for this purpose, a deep-tillage disk plow. This plow cuts sixteen inches and can be gaged to even eighteen inches deep. On this farm the average depth of plowing is twelve inches. It requires four horses, and one acre is considered a fair day's work. If ground has been plowed in the fall, it is gone over with a double disk in the spring until a regular garden seed bed has been obtained. Potatoes will not grow in hard ground. Deeply-plowed ground invariably produces better crops than that plowed shallow. It grows stronger vines, stores more moisture, and produces more favorable conditions generally.

The Acme or Early Ohio variety is grown exclusively, in the belief that better results may be obtained than where several varieties are raised. Planting is begun about the middle of May, or as soon as the ground is properly prepared. The aim is to have all planting finished not later than June first. Seed is cut by a cutter and the planting is done by a machine. The seed is dipped in a solution of five ounces of corrosive sublimate to thirty gallons of water. It is put into the solution immediately after cutting and permitted to remain two hours. Planting should follow the removal of the seed from the solution.

Cultivation begins at once after planting, and is continued almost incessantly. The first cultivation is done with an ordinary shovel cultivator and between the rows only, care being taken not to disturb the ridges left by the planter. Two weeks after planting the field is cross harrowed to level the ridges. This destroys any weeds that may have started on the planter ridges. As soon as the potatoes are up so the rows can be followed, cultivation is done once a week. The shovel cultivator and disk are used alternately. This is kept up until the spreading of the vines prevents further use of these implements, which will probably be in about four weeks. Then an adjustable fourteen-tooth harrow cultivator is substituted and its use continued about all the time until the crop is assured. Its principal use is to provide a dust mulch which retards evaporation and makes it possible to utilize the moisture stored in the earth loosened by the deep plowing.

When the vines have made a growth of about a foot the fight against bugs and blight is begun. This is done by spraying once a week if it seems to be needed as a protection against bugs. On the Stewart farm the spray is applied with a sprayer. Bordeaux mixture is used, in which Paris green has been added in the proportion of one pound of Paris green to one hundred gallons of Bordeaux mixture. The Paris Green is the bug killer. Blight is not of frequent occurrence, but the application of the Bordeaux mixture as a preventive is deemed advisable. Flea beetles do some damage, but they are easily kept in check by the Bordeaux mixture. Twenty acres may be sprayed in a day. On this farm the cost of spraying for a year is estimated at fifty dollars. As a bug poison, arsenate of lead is better than Paris green, as it does not wash off so readily, but it cannot be handled so conveniently.

Digging is done by machine digger, marketing is begun about September 1st and pushed until the crop is disposed of. The potatoes are put through a sorter, and the smaller ones held over to be used as seed. The introduction of new seed is advised every second or third year. Northern-grown seed seems to be advantageous From 100 to 160 bushels per acre are obtained. There is a decided advantage in yield from land plowed by the deep tiller. Mr. Steward estimates the cost of an acre of potatoes at $44.49, the items being as follows: seed, sixteen and one-half bushels, $14.93; treatment for scab, forty-six cents; cutting seed, fifty cents; plowing, $3 75; discing once, seventy-five cents; harrowing twice, twenty cents; planting, $2; cultivating eleven times, $2.88; spraying four and one-half times, $2.41; digging, $2.50; hauling to market, $4; extra labor in picking, $3.11; land rental, $6.

The farm on which these operations take place is not especially adapted to potato culture. For this reason only the high parts of the fields are devoted to potatoes, the remainder being in corn or other crops. The light, loose, well-drained soils of these higher parts have done well in potatoes. A crop rotation is employed in which there are five twenty-five-acre fields enclosed hog tight and planted in the order named; potatoes, corn, wheat and oats, clover and timothy, meadow and pasture. Manure is applied to the potato land the year before for the reason that if it is applied the same year it causes scab.

The year following a crop of potatoes, corn is planted, the only preparation necessary being covering the field twice with a double disk harrow. The deep plowing for potatoes carries an effect which is still evident the second year. Few weeds and a good corn crop are practically a sure thing.

After the corn comes a crop of wheat and oats sowed in the proportion of one bushel of wheat to three bushels of oats. The preparation for the small grain crop includes only the removal of the cornstalks and going once over the field with a double disk. Then the wheat and oats are drilled in. Grass seed is applied after drilling, with the wheelbarrow seeder and harrowed in. Equal parts of timothy and clover are used at the rate of two bushels for five acres. Manure is applied thinly to the poor spots before fitting the ground in order to insure an even stand of grass. The next year Percherons, Short-horns and Poland Chinas graze, nibble and root and add their share of fertility. It helps the clover to grow and store up more nitrogen for succeeding crops.

The next year the rotation is again begun with potatoes. The advisability of this plan is best attested by the fact that last year the corn averaged sixty bushels per acre, oats forty-two bushels, and hay a ton and one-half, and this in a season when drouth most seriously influenced all yields.

WHAT ONE FAMILY DID ON ELEVEN ACRES.

BY DOUGLAS E. HAMMOND, CALHOUN COUNTY, IOWA.

(In Wallaces' Farmer.)

I believe the most important thing to success in any occupation is a natural love for it. Many of our country boys and girls like country life; but do not possess sufficient means to acquire from 80 to 160 acres of land, and therefore give up in despair, and seek employment in our already overstocked cities.

To show what can be done on a small place, I will give you a few facts regarding the proceeds from eleven acres of land the past season. Previous to our coming to this place, I do not think $50 a year was sold from it. During the past season over $700 worth was sold, not counting the butter, eggs and meat, both beef and pork, besides more vegetables than we could use. We kept three cows part of the time, and two all of the time. They were Jerseys, and four quarts of milk would make one quart of cream. We sold this milk—every drop we could spare—for 8 cents per quart. Had regular customers for it. A cow averaging six and one-fourth quarts per day is equal to $182.50 per year. The average well-fed Jersey cow will exceed this the season through. I merely mention this to show you how we got the money.

Then we kept some fine Duroc hogs—pedigreed stock—which, by the way, does not cost as much to feed as do scrubs, and just a little more to get your first start. If well fed as to growing bone and size, you may depend on them to sell well, as did ours. From the time these pigs were born until the first week in November they did not get ten dollars' worth of feed save the waste melons and grass. The melon patch was a field of large stumps in the spring. I blew them out with dynamite. The patch was nineteen rods long and eleven wide, and contained 209 square rods. It was kept free from weeds. I began picking my first melons the last of July, and went over my patch daily; picked every imperfect melon off and fed it to the hogs. They do not fatten hogs, but when fed in large quantities they cause the hogs to make a splendid growth.

From these hogs, besides the pork we ate, we derived $164.35. We sold ducks, geese, turkeys and chickens, all of which were full-bloods. The poultry was largely sold as common stock, and not at fancy prices. We also sold a great many eggs. I sold melons during August, September and most of October. The most picked in any one day was 298 watermelons and 138 muskmelons. All of these melons during the entire season were sold right at the patch, excepting probably five or six dozen. No melons were sold on Sunday, and many were given away. But of those we kept account of, we sold over $250 worth. During the year we bought $56.38 worth of feed to feed the stock. We kept a little driving team. Almost one-fourth of this land was covered with timber.

Two acres of good melons on well-drained, rich soil, whether old or new, should give any boy or man $400, and ten acres of good land can and will support the average family if a man will just give two-thirds the time to the land he would give to eighty acres. The trouble is, our Iowa people, with blessings at their door, seek at least the larger portion of them, the get-rich-quick methods, and do not try to adapt themselves to their surroundings. I have not the time just now to go into detail, but might suggest that if I was compelled to try, I could make a living, and a good one, too, on ten acres of land. This would be my plan:

Put out one acre of strawberries and set them the distance of corn rows apart. Put an onion row down between each row of berries the first season, thus getting a fine crop of onions. Three acres of potatoes well cared for, and with the use of good judgment one year with another should give you 1.000 bushels. Two acres of muskmelons and watermelons—about one-fourth of this muskmelons would be the proper proportion. Then, with two good cows, a few hogs, chickens and vegetables, and a man who will work two-thirds as much as on the average eighty acres, will be surprised in the fall.

Now, right up between the melon rows, if you will plant mangel beets, you will grow enough to feed a goodly number of hogs, cows and chickens for six months, and not in the least damage the melons, for I work my melon ground with a corn planter, and use every fourth row each way. Last season I put beans in between my melons with good results. Early potatoes will get out of the way before the melons reach them, also.

I wish to add that if our city people will, when spring comes, rent a few acres of ground, if not able to buy, and live in a tent during cultivating and harvesting time, they will be taking the first step in the purpose of their creation—the pursuit of peace and happiness—and we will hear less about the high price of living. Tuberculosis will receive a shock, and morals will be increased one-third. Now, do not think you need to be near a large town to do this. In fact, a large town is always a poor market. I get more than twice as much for my melons than I could have received had I been near Des Moines or a larger place. A town of 2,000 is large enough for several men engaged in this work, and the time is fast coming when we must do more intense farming. We must have a greater income and a less expense; greater happiness and purer lives.

CEMENT SILO CONSTRUCTION.

BY M. L. KING, IOWA STATE COLLEGE.

The masonry silo is an established success. Perhaps the largest factor in establishing the success of this type has been the use of concrete in its construction. Such construction is absolutely permanent and economical from any standpoint. In many cases the first cost is as cheap as any other form of construction. Even though it should cost twice as much as wood the difference in the cost of maintenance of masonry and wood silos would more than pay the interest on the extra investment. The most serious handicaps of the unlimited use of masonry silos today is the scarcity of mechanics acquainted with this work and the amount of equipmnet necessary.

There is one strong competitor to be considered seriously by the cement silo builder. This is the clay block silo. It cannot be passed by lightly. It is here to stay, and when built of first-class materials is permanent. It was originally designed as a substitute for concrete where the necessary aggregate for the concrete could not be gotten for a reasonable cost, and the following features have brought it into direct competition with concrete in a broader way than was first considered possible.

It requires less equipment and there is less hauling for the farmer to do. I might add one thing here to clear up some misunderstandings which have been more or less widely circulated. Even though the Iowa Experiment Station did design the most widely used clay block silo, known as the Iowa silo, we do not consider it the only masonry silo, but do advise that the choice between the clay products and concrete where a good quality of each is available should depend entirely on the cost of the construction. The features of each are enough different to furnish talking points for advocates of each, but they are so evenly balanced that we consider the price should be the deciding feature.

It is claimed that masonry silos burst but this is not true. Properly reinforced masonry silos do not burst and never did. It is claimed that large amounts of mould occur near the wall. This may happen in any silo that is not properly filled. However, if the masonry silo wall is smooth, vertical and impervious, mould is no more liable to occur against this kind of wall than any other. It is also claimed that more freezing occurs within the masonry silos than in the two-inch wooden walls. Dry wood is warm, but the wood next to the silage is never dry. No more freezing occurs within a six-inch concrete silo wall than within a two-inch wooden wall. Finally it is claimed that the acid formed in the fermentation of the silage destroys any masonry material, steel or any other substance aside from wood. The peculiar thing is that this same acid is supposed to preserve wood. This acid is one of the weakest organic acids and occurs in very low percentages. It probably has no perceptive action on any materials either causing disintergration or preventing decay.

IMPORTANT ESSENTIALS.

Before going into the details of construction we should understand the requirements of a silo. Freshly cut green corn is simply packed tightly, as nearly uniformly as possible, in a large circular building, in the absence of air there is a slight fermentation—a heating of the corn up to a sufficient temperature to cook it considerably. The silage is to corn what kraut is to cabbage. After filling the excessive weight of this feed causes it to settle considerable.

If the wall is not smooth there will be air-pockets between the silage and the wall. This same pressure will cause the silage to press out slightly tending to fill the small recesses in the wall, but the wall should be as smooth as possible. Also the walls must be air-tight because any air admitted to the silage will cause it to mould and decay. In order to make the doors tight they should be "mudded" in. Of course air comes in contact with the silage at the top and enough corn rots to shut off the air from the silage below. Careful tramping after settling will reduce the loss, as less corn will be required for this air-tight cover.

REINFORCING MATERIALS.

The settling of the feed, its heating, and consequently expansion, causes considerable outward pressure on the silo walls. In order to prevent the pressure from bursting the walls they should always be reinforced with steel.

There are a few cases of successful silos having been built practically without steel. This, however, is no sign that it is safe as we simply have no factor of safety and nobody knows how near these silos come to bursting. There are many bursted masonry silos in the country. Though a few silos without reinforcements have happened to stand, it is absolutely unsafe to depend upon masonry alone to withstand this pressure; steel must be used. This pressure amounts to about 11 pounds per square foot for every foot in depth; that is, at a depth of 40 feet the pressure would be approximately 440 pounds per square foot.

The cost of reinforcing does not exceed five to eight per cent of the total cost of the building and it is the only way to make the building safe. This pertains entirely to horizontal reinforcement, all hoops and bands placed in the concrete.

Recommendations for vertical reinforcing have eminated from several apparently reliable sources. Careful and extensive investigation in silo work in the past four years have failed to indicate to me that vertical reinforcement in the wall is necessary except at the door frames. Such reinforcement does no harm, but it does cost money and requires time to prepare and place and so far as I have been able to learn no failure has ever occurred on account of its absence. It is of course reasonable to suppose that horizontal reinforcement could be far enough apart to make this necessary, but where one-fourth to one-half inch steel is placed as often as is necessary there seems to be no reason for the vertical steel. In the case of the continuous door frames in which the steel extending across the doorway is several feet apart there should be vertical steel in the door jams sufficient to transfer the stress of horizontal steel down to the steel extending across the doorway.

MAKING FOUNDATIONS.

For walls six inches in thickness and 40 feet in height the weight upon each foot of circumference will probably not be far from 3,000 pounds. The weight of the roof and the friction of the silage settling add somewhat to the actual weight of the concrete itself.

It is common on good soils to allow 2.5 tons per square foot on soil bearing surface. It is convenient to make the foundation from 18 to 24 inches wide; this reduces the pressure to one ton per square foot or less and makes it very safe. This can be conveniently arranged by simply digging a wide trench around the outside of the pit. The pit should only be deep enough to get the foundation below the frost line. In building the foundation the excavation can be done neatly and only inside forms are necessary. There really seems to be no reason why the wall below the ground should be thicker than that above.

THE WALLS.

Concrete silo walls may be divided into two divisions, monolithic and block. The block has the advantages already cited for clay blocks, but more labor is required in the construction of block than monolithic silos on account of the extra labor in manufacturing the blocks.

It sometimes happens that a man wishing a silo is handy and can spare time to work upon it, but can not spare any more cash than is absolutely necessary. If in such a case the owner can get sand or gravel, the cement block silo is the one for him to build for he can build it for less cash outlay than any other form of silo. In regard to blocks, both hollow and solid kinds are used. In some cases extremely thin solid blocks have been used.

In most cases, however, where labor must be considered a very important cost factor the monolithic silo will be the cheaper. The monolithic walls have been built both double and single, the first costing considerably more for labor, material and forms. There are of course some advantages in hollow wall construction, yet it is very qeustionable if the man who must spend his money carefully will find the double wall a good investment.

DOORS AND PATENTS.

There are two general forms of doors which may be used: the so-called continuous and the individual doors. The latter are merely opening in the wall 22 to 24 inches in width and 30 to 36 inches in height, spaced a few feet apart vertically. The continuous door is considerably more convenient. Its width is the same, but it is considerably higher, having an opening from four to six feet in the clear, and these openings are separated only by reinforcing bars encased in six or eight inch masonry. These openings are closed by short doors so that in no case is it necessary to pitch the silage high in removing it.

During the past summer I have learned that certain parties were threatening farmers with injunction suits, provided they proceed with the building of round silos other than those licensed under the Harder Patent No. 627.732, which is simply a patent on a stave silo with a continuous door. There seems to be no conflict between the two, however; if there were such a conflict one would still have a perfect right to build whatever kind of doors one wishes in a masonry silo, because in a rather interesting search for old stave silos over the United States we have recently found at least three dozen cases, any one of which would invalidate such a broad interpretation of this patent. Anyone making threats to bring suit against a man building a masonry silo with a continuous door should simply be laughed at and told to proceed.

Up until four years ago all concrete silos found were built with wooden door frames. Forms for making concrete door frames of the right shape are much cheaper than wooden door frames and only two of them are needed while half a dozen or more of the wooden frames are required. In addition to the economical feature of this the concrete door frames are very much better from every consideration. Nearly all of the wooden door frames permit the air to leak in between the concrete and the frame. Furthermore it is only a question of time when the wooden door frames will rot out.

THE ROOF.

The only logical type of roof is a concrete roof for a concrete silo, and my experience is that the best and easiest form of roof to build is a conical roof of one-fourth to one-third pitch. The roof appears more difficult of construction to the average man than it really is. In reality it is a very simple job. Rafters are cut to the required pitch; enough of them are used so that they will not be more than six inches apart at the base; curved headers of one inch lumber are placed between the rafters not over 3.5 feet apart and over this is placed barn boards ripped corner ways.

The sheeting should then be covered with woven wire. For a 16-foot silo it is necessary to place the equivalent of a half-inch square bar in the concrete directly over the wall. This prevents the roof from spreading due to the weight of the concrete. Any scraps of reinforcing remaining from the work may be cut in lengths from three to six feet and laid on the woven wire reaching out to the circular steel above the walls.

A small form may be placed where the trap door in the roof is required. This should be of such a size that a standard barn sash will fit it. The concrete may be spread, taking care to lift the woven wire occasionally and to work the concrete below it. The work should be commenced on the opposite side of the hoist carrying the work to the peak as he works around, finishing as he goes.

Three inches is sufficiently thick for the base and 3.5 for the peak. The conical shape is extremely strong and I know of one contractor who has in at least 25 instances removed the forms from beneath such a roof the following day after placing the concrete. This makes it very convenient.

THE SILO AS A FEEDING PROPOSITION.

BY F. E. WAKEMAN.

(Before the Taylor County Farmers' Institute.)

Concerning the silo as a feeding proposition. It is now quite generally acknowledged that the silo affords the best known means of preserving green feed or forage for winter feeding of live stock.

Its contents, which we call ensilage or silage, is preserved much the same as sour kraut. We all understand the principle when air is excluded the progress of decay in vegetable matter is arrested. If the bottom and sides are airtight, and the material to be kept is fine enough to make it possible to exclude the air from the mass by close packing, the whole will be kept in a state of preservation after a sufficient amount has rotted or decayed on the top to exclude the air entirely.

The efficiency of any silo therefore will be in proportion to the resistance it may offer against these elements producing decay in vegetable matter. Hence it should be well built of good material upon a good foundation and as nearly air tight as possible.

Roof, paint, lightning rod anchors, etc., are valuable additions effecting the life and looks of a silo, but not at all in themselves necessary to the success of the silo in the making of good silage.

Almost any green forage may be preserved in the silo for silage.

The value of any forage crop harvested for future use depends upon the amount of its nutritive value that may be retained palatable and digestable until the time of feeding. This being true the advantage of the silo over other methods are apparent. The crop is harvested just as it reaches the stage of maturity, with its maximum of food value. It is placed in the silo direct from the cutting and is there preserved until needed with an estimated loss of only 6 or 8 per cent of its original value.

Its palatability and digestibility are manifest in the keen relish and thrift of the stock that eat it.

After much experimenting it has been found that nothing excels our Indian corn for making good silage. Among the points in its favor are a combined grain and forage ration and one easily balanced for any purpose. Being a large plant it yields a great amount of forage per acre and may be easily harvested. It can be cut with a binder, hauled to the silo on wagons, put through a cutter and delivered into the silo by means of a blower, a combined machine run by an engine.

Being cut in short lengths usually from ½ to ¾ inches (½-inch prefered) it packs closely, excluding the air from the mass, a feature very favorable to its good keeping. Another important point is that the time of harvesting it for the silo comes in the fall of the year usually in this latitude about the 10th of September and does not interfere with other crops in their making or harvesting. Sometimes it upsets a picnic or county fair, but a fellow never misses that in February, piling out the silage, while his neighbor who went perhaps to pulling corn shocks out of the snow.

However, it is for these reasons that the corn plant is now universally used for silage purposes.

Experience has taught that it makes the best silage if put in the silo when the ears are well glazed and about one-half or more of the leaves are yellow; this indicating the close approach to maturity and the greatest development of sugar content in the stalk.

We have found that the fellow who fills his silo last usually has the best silage if it is not frosted. Immature corn put in the silo comes out black and sour and makes poor silage. The best silage may be made from the best corn because of a larger proportion of grain; but usnally it is preferred to plant thickly, securing thereby a better grade of forage and more of it per acre, the grain content then being sufficient for all practical purposes.

Regarding the loss of the top and bottom of the silo: This may be obviated by a liberal use of straw. Our loss at the top this year did not exceed a wagon box full. Our method was to put enough straw through the cutter to cover the silage some 20 inches or more. At the same time pouring a little stream of water into the side of the blower. After this was done, by means of a pulley rope and pail we poured water on top until all the straw was thoroughly soaked. We tramped the top, especially the sides, once each day for four or five days and then never allowed anyone to set foot on top again till the morning we opened to feed.

While filling the silo we put our best man in the silo to tramp the sides and manage the distributor pipe, a convenience we have found to be well worth its cost.

When a good silo is rightly filled with corn cut just as it reaches the stage of maturity we have a feeding proposition worth the consideration of any stock man. We have in it a nutritious, palatable, easily digested ration, available at any season of the year, winter, dry summer, dry fall—any time; will keep until next year or year after. One case is reported of good silage seven years old.

In the silo we have an economical storage of feed. A certain amount of dry matter or food nutrient in the form of silage in the silo occupies from one-third to one-half less space than the same amount of dry matter or food nutrients in the form of hay in the barn.

In comparison with other feeds: silage vs. hay—three tons of silage is equal in feeding value to one ton of good hay, the juice, or water contents, of the silage accounting very largely for the difference in weight. One acre of corn yields from 12 to 16 tons of silage, one acre of meadow yields from 1 to 3 tons of hay. One acre of corn in silage provides as much feed and of the same value as three to five acres of meadow. This is much in favor of the silo, when land is worth $90 to $150 per acre.

Silage compared with fodder: By fodder we mean fodder with the corn in it. In analysis they are practically the same. The corn in each amounts to 60 per cent of the value of the crop. The stalk and foliage represent 40 per cent of its food value. In the silo this 40 per cent stalk and foliage is preserved palatable and digestible with scarcely anyper ceptible loss of value. In the case of fodder the 40 per cent original value of the stalk and blade at cutting time has been wrought upon by the elements and blown about by the winds until the bleached blades, the missing ones and the large amount of woody fiber of the stalk now rendered unpalatable and indigestible, represent an estimated 20 per cent loss, or one-half their original feeding value. In consequence of this loss, counting out the corn, one acre of silage as forage will feed twice as far as one acre of corn fodder, or, in other words, counting out the corn, one acre of silage as forage is worth twice as much in feeding value as one acre of corn fodder. In silage the 40 per cent original value in stock and foliage are available. In corn fodder 20 per cent is lost.

Silage is pre-eminently a cattle feed, whether fed for milk or beef. Today it is the most satisfactory dairy ration, being easily balanced for the production of milk and butter. Compared with fodder, experiment stations report 4 to 12 per cent more milk and fat in favor of silage. Compared with hay they report 10 to 17 per cent more milk and fat in favor of silage. For fattening cattle it is a cooling ration and an appetizer for heavy feeding.

For stock cattle, it brings them through the winter in the best of health to meet the grass strong and ready to make rapid gains. Upon it young cattle will thrive and grow all winter. Silage is good for horses, but is best fed in limited amounts. It is excellent for sheep, especially for the ewe with lamb at foot. Let the brood sows have all they want of it. We have not lost a sow or a litter of pigs at farrowing time during the five years of our experience of feeding them ensilage during the winter and early spring.

Silage is a cheap ration. It is estimated that one acre of silage can be raised for $10, can be put in the silo for 35 or 40 cents per ton, a total cost of about $1 per ton and the yield 12 to 16 tons per acre. Thirty or 40 pounds will feed a cow one day, a ton will feed her 50 days at the cost of $1. At the same rate, one acre of silage will feed three or four cows 200 days. Cheap indeed and grown upon your own farm. Put up all you want on an average farm in two days or less. It is available all the year around, never spoils, except a small amount on the top, if your silo is right, and keeps from year to year. With the increased amount of feed that may be secured per acre and the preservation of its entire feeding value up until the time feeding it is possible to carry more stock with a silo than without it and thereby increase your profits proportionately. On good authority it is said that one acre of silage will keep three cows seven months, that two acres of hay will keep one cow seven months; also that one acre of pasture will keep one cow six or eight months, and one acre of silage will keep two cows one year. From this it would seem possible to carry more stock with a silo than without it, and we might add that this has been almost verified in our own experience.

The cost of a silo ranges according to size, somewhere from $300 to $400, the cutter $150 to $200, and the engine from $600 to $700. It is advisable to get a large cutter, a No. 18 or 20 size, and plenty of power, a 15 or 16 horse power engine. Three or four neighbors may reduce the cost of machinery and labor materially by purchasing and working together. To avoid the rush in filling their silos, one can plant an early variety for his silage, another a medium and another a late variety. This is the method in our country.

As a feeding proposition the use of the silo has proven a success in providing a nutritious, palatable and easily digested ration adapted to the winter feeding of all classes of live stock. And the cheapness of the ration economically stored, ready for use any season of the year are features that can not be overlooked, to say nothing of the extra stock one might be able to carry. The days of experiment are passed. The silo is everywhere commended as an important factor in profitable stock husbandry.

SILAGE FOR SHEEP AND HORSES.

W. A. MCKERROW, IN WISCONSIN INSTITUTE ANNUAL.

The topic of silage has been one of long experiment and comment. Some years ago it was a common thing to hear people say that corn silage was of little value; in fact, some would even assert that it was not equal to our other rough feeds. Now we find that the advent of the silo has continued, its value is fully realized by feeders in general. Dairymen understand its part as an essential in economical milk production. The majority of progressive dairymen here in Wisconsin have silos, and as silage has proven itself a benefit to one class of live stock, it is natural that men should reach out and seek to apply it to others. The internal mechanism of the cow is not widely different from that of a sheep or horse. A feed that a cow can assimilate at a profit should be valuable as a feed for other classes of live stock.

It does not pay to maintain a silo for cattle alone if silage can be adapted to the use of our other farm animals. This has been the subject of much thought, not only to use silage as a succulent feed, but a chief ration for sheep and horses. The results of experiments in the feeding of silage to these animals are probably not as widely known as they should be. If they were, it is my belief that farmers would derive added benefit from their silos.

There are always reasons why failure is pronounced on new discoveries, and we find this particularly applicable with silage. The first silos were built oblong, giving great surface but little depth. This caused moldy silage and silage which had become spoiled from contact with the air. This sort of feed proved a failure in most cases and the silo was not a success. But when the deep, air-tight silo was brought into use, the prospect became much brighter.

I believe that the greatest fault in silage making at the present time is the putting up of too green corn, the use of corn which produces great tonnage, but does not get mature enough. This causes too much acidity which is detrimental for feeding purposes. Investigation would show that this sort of corn has been used in nearly every instance where failure has been pronounced. I might give a brief outline of our experience with corn silage the past twelve years in feeding sheep and horses.

The first year we filled the silo with whole corn, which was planted thick in the rows and harvested when just beginning to glaze. The leaves and stalks were filled with sap, being grown on rich loamy soil. Although it gave us a heavy yield, the results were not the best. We started feeding it cautiously to all of our sheep, but when over one and one-half pounds were fed it had a laxative tendency and in some cases the younger growing lambs would appear sickly, showing papery colored skins and an unthrifty appearance generally. I might state that we fed clear hay and ration of oats and corn in connection with the silage.

The following year a more mature crop was harvested; and as a result the apparent bad effects of the previous year were eliminated, and a two-pound ration was fed, showing good gains and thrift in the entire flock.

Since the first two seasons our corn has been run through the cutter, not because we thought it made better feed, but we could handle the crop at feeding much easier with practically no more expense.

We are now feeding sheep of all ages corn which had ripened enough for husking and is a fairly early maturing variety with leaves partially dried. Pregnant ewes and young stock received two pounds per head daily and ewes suckling lambs from two and one-half to three pounds, with the best results. I believe we could profitably feed all of this well-matured silage our sheep would consume with excellent results. Where silage has been pronounced a failure as sheep feed, nine cases in ten it has been caused by filling the silo with immature corn.

The experiment stations have been doing excellent work in carrying on experiments with the feeding of corn silage in connection with other feeds to sheep. Among the most valuable are those carried on at Illinois, Indiana, Michigan and Iowa, in most cases demonstrating that good silage was the most economical mutton-producing feed when fed in connection with other feeds.

The Illinois station is now conducting a second experiment with corn silage for fattening lambs along the same lines as one completed two years ago, when silage was substituted for corn and clover hay, with the addition that two lots are fed entirely without clover hay, but this is substituted with other nutrigenous feeds. Professor Coffey states these lambs are as healthy and making as good growth as the others, although the experiment is not completed.

In the test two years ago at Illinois, five lots of sixteen wether lambs each were selected and silage fed in different quantities to each lot. Another lot was fed entirely on clover hay and corn. In every case the lambs having silage in their ration made greater and more economical gains than those fed on corn and clover, and in every case also the lambs fed the greatest amount of silage made the best gains.

There is one noticeable factor in this experiment which is very important. That is the general increase made in feeding; a sudden increase in feeding has been detrimental in many instances. I would like to illustrate this by using the data from that college. A fourteen-day preliminary period, followed by four twenty-eight-day periods, was for shelled corn 0.29, 0.80, 1.07, 1.36 and 1 61 pounds respectively. Corn silage. 0.56, 1.19, 2.03, 2.58, and 2.62 Clover hay, 1.33, 1.04, 0.80, 0.63 and 0.38. The gains were greatest where the most corn silage was fed. Similar work has been carried on at Michigan, Ohio and Indiana.

These efforts are particularly valuable, because they have been long periods, demonstrating fully that there are no ill effects on the system of the lamb and mature sheep, which we find claimed many times by people who are not feeding silage mature.

The Indiana station recently stated that silage was an excellent feed for sheep being fattened for slaughter, also for pregnant ewes and ewes after lambing. This statement coroborates the experience of many a practical sheep breeder.

Our experience in feeding silage to horses has been similar to that of sheep. The poor results from feeding sour, immature silage was apparent. Since the first year or two we have been feeding a liberal quantity to our work horses, brood mares and growing colts with good results. We have never fed heavily to growing colts or brood mares. However, some of our most progressive farmers have been feeding as high as thirty pounds per day to mares suckling colts, and others have fed silage and oats as an entire ration.

It has been fully proven that moldy silage is dangerous. Pearson, of Pennsylvania, in investigating an outbreak where five horses had died, found moldy silage had been fed, causing the deaths. Wing also reports the death of eight horses feeding on moldy silage. We see that, in view of such troubles, silage should be fed to horses only where sound intelligence is used.

Our conclusion is that silage is one of the most economical and successful feeds for sheep and horses, when it is made from well-matured and properly-siloed corn, and may be fed in almost unlimited quantities.

PRACTICAL METHODS OF DISINFECTING STABLES.

U. S. Department of Agriculture,
(Farmers' Bulletin 480)

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In the work of the Bureau of Animal Industry in dealing with infectious diseases of live stock it has been found that the average stockman and farmer does not realize the importance of thoroughly disinfecting his premises following an outbreak of contagious disease. There is apparently a widespread lack of information regarding the germicidal power of various substances, commonly termed disinfectants. There is also a lack of knowledge concerning practical and economical methods ance of a contagious disease on premises from which it was believed to have been eradicated may frequently be traced to careless or imperfect work in connection with the cleaning and disinfection of the place.

This bulletin has been prepared with a view to emphasizing the importance of the thorough disinfection of contaminated buildings and to point out some of the most reliable disinfecting agents, together with methods of their application.

THE NECESSITY FOR DISINFECTION.

It is but natural to acknowledge the presence of only such objects as can be seen with the unaided eye. Since, however, by means of the high-powered microscope, has clearly proved the existence of numerous minute animal and vegetable organism—microorganism—and it is a matter of common knowledge that many of these organisms frequently find their way into the animal body and produce disease. It is also well known that these microorganisms, or germs, vary in form and other characteristics and that for each disease of an infectious nature there is a specific germ.

If these germs could be confined to the animal body and die with it there would be no such thing as an infectious disease. Unfortunately, however, they are thrown off by the animal through the excretions and lie in the earth, in the litter of stables, upon the floor and walls, and in cracks and crevices. Here they may remain and maintain their virulence for an indefinite period, ready at any time to be gathered up by an animal in its feed or to be blown about in dust and drawn into the lungs.

For example, we have tuderculosis in cattle and glanders in the horse. In the former disease the causative agent is a rod-shaped germ (*Bacillus tuberculosis*), which is about one thousandth of an inch in length. Cattle affected with tuberculosis pass myriads of these germs with the manure, and it is not difficult to understand how in the average stable they would have little difficulty in finding many lodging places. In glanders the causative agent is another rod-shaped germ (*Bacillus mallei*), about the same length as the tuberculosis germ, but somewhat thicker. A characteristic of this disease is the formation of ulcers in the nostrils and other portions of the body, from which there is more or less discharge laden with the glanders germ. And here, again, it is not difficult to understand how one diseased animal may contaminate extensive premises.

As has been stated, some of these minute forms are vegetable organisms. In fact, these vegetable parasites are the cause of some of the most destructive diseases, and some of them are very difficult to destroy.

for the reason that they contain spores. A spore may be likened to the seed of a plant, for it bears about the same relation to the bacillus that a grain of wheat does to the plant proper. As the plant may be destroyed and the seed remain latent for an indefinite time, so destruction of the bacillus may be easily accomplished while the spores remain unharmed and retain life for weeks or months.

An example of this class of organisms is seen in the agent which causes anthrax (*Bacillus anthracis*). Ordinarily methods for the destruction of the bacillus will not destroy the spore as well, and thus anthrax becomes a most difficult disease to eradicate. Upon farms where animals have died from anthrax and the carcasses have been buried instead of destroyed, repeated outbreaks of the disease may occur from time to time, possibly extending over a period of several years. This condition is due to the existence of the very resistant spores, which under favorable circumstances are carried to the surface of the earth and become infecting organisms—much as the seed of a noxious weed, after remaining in the soil during the winter, finds the conditions favorable in the spring and develops into a plant—except that these minute forms of life multiply with the most wonderful rapidity.

Thus it is that our increased knowledge regarding microorganisms or bacteria as the cause of many animal diseases has emphasized the importance of disinfection.

THE NATURE OF DISINFECTION.

The work of disinfection is based upon our recognition of the presence of disease germs, and disinfection means the act of destroying the cause of the infection. In other words, disinfection is a removal of the cause, and it will be clear to any practical man that in dealing with disease any effort which stops short of a complete removal of the cause is most unwise and unprofitable. To those unaccustomed to the work, disinfection may seem a most complicated process. Any approved method, however, is comparatively simple when carried out carefully, although like many another procedure it is one in which attention to details counts for much. It is important to bear in mind that the causative agents of many diseases are extremely small and may remain for an indefinite time in dust, cracks, and crevices of buildings, so that efforts aiming at the eradication of disease from contaminated premises must be thorough in order to be effective.

DISINFECTANTS.

In the work of disinfection nature has provided man with a most valuable ally—sunlight. It is well known that the direct rays of the sun are destrustive to many forms of bacteria, in some cases destroying them and in others lessening their influence. Thus the importance of well-lighted stables is evident. The dark and sunless building will be a favorable breeding place for bacteria, and the structure which admits the greatest amount of sunlight will be the least favorable for their development. Again, heat will destroy the bacteria of disease. But this is not meant the ordinary heat of the sun, but heat as developed in boiling water or in flame. It is upon this principle that the surgeon before operating renders his instruments free from the possible presence of bacteria by boiling, and it is heat which renders a jet of live steam destructive to bacteria. Sunlight, however, can not be considered more than an accessory in the destruction of bacteria, while the application of heat in the form of steam or flame is seldom possible. The result is that in the practical work of disinfection we are dependent upon certain drugs, which have power to destroy the organisms of disease.

Such drugs are known as disinfectants, and, fortunately, we have at hand a number that possess the power of destroying bacteria. It is not the purpose here to consider further the relative values of these drugs, neither will it be necessary to discuss the exact manner in which they act. It is sufficient to know that they possess the power of destroying bacterial life with the same certainty that poisonous drugs destroy animal life. They have only to be brought in contact with the bacteria in order to destroy them. As disinfecting drugs vary more or less in potency and in adaptability to general use, possessing certain advantages as well as disadvantages, it may be well to describe briefly a few of the commoner forms.

BICHLORIDE OF MERCURY.

Bichloride of mercury, also known as corrosive sublimate and mercuric chloride, is used in solution in water, commonly in a strength of 1 to 1 000, though solutions of double such strength may be employed. Although possessing great germicidal power, it has the disadvantages of being a violent poison, of corroding metals, and of uniting with albuminous substances, such as excreta, blood, etc., and thus forming inert compounds. Unlike the coal-tar products, it leaves no odor in the stable, which is an advantage in connection with the production of milk. On the other hand, care must be used in the handling of a solution of this drug, and feed boxes to which it has been applied should be washed with clear water before animals are again permitted access to them.

CHLORIDE OF LIME.

Chloride of lime (sometimes termed chlorinated lime) is a wellknown disinfectant, although its value is doubtless greatly overrated. This may be due in part to the fact that it is a powerful deodorant—such drugs on account of their pungent odor being popularly believed to have great disinfecting power. Being of uncertain strength and somewhat destructive to metals, and having a permeating odor especially objectionable in a stable where milk is produced, chlorid of lime can not be classed as the most desirable of disinfectants. For general disinfecting purposes it may be mixed with water in the proportion of 6 ounces to the gallon.

FORMALDEHYDE.

An aqueous solution containing approximately 40 per cent of formaldehyde and known as farmalin has of recent years become a more or less popular disinfectant.

Formaldehyde gas is in most cases impracticable for stable disinfection. case formalin is mixed with water and in the proportion of 6 ounces to the gallon and the resulting solution is applied directly to surfaces of substances which are to be disinfected.

Formaldehyde gas is in most cases impracticable for stable disinfection. Where, however, can be made almost air tight, and the animals removed, it will be found very serviceable, as it penetrates every crevice.

Several methods are in vogue for disinfecting with formaldehyde gas. Probably one of the most simple and practical methods of liberating such gas is by means of the chemical reaction which takes place when formalin is poured upon permanganate of potassium. For each 1,000 cubic feet of air space 16 2-3 ounces of crystallized of powdered permanganate of potassium is placed in a wide-surfaced pan; 20 ounces of formalin is then poured upon it, and the room immediately closed for a period of 12 hours or longer. This method is efficient only when it is possible to seal tightly the rooms or compartments to be disinfected and when their temperature is not below 50 degrees F.

CARBOLIC ACID.

Carbolic acid in its pure form is, at ordinary temperatures, in the shape of long, white crystals. For convenience it is frequently dispensed in liquid form by the addition of 10 per cent of water. A 5 per cent solution of carbolic acid is sometimes used as a disinfectant, but carbolic acid has the disadvantage of being expensive and somewhat difficult to dissolve.

CRUDE CARBOLIC ACID.

This substance should not be confused with pure carbolic acid. It is a product of coal-tar distillation and consists for the most part of practically inert oils and cresylic acid. Its disinfecting power depends upon the amount of cresylic acid which it contains, as well as the relative percentage of hydrocarbon oils. Owing to its uncertain composition crude carbolic acid can not be classed as one of the most desirable disinfectants.

CRESOL.

Cresol, commonly termed "straw-colored carbolic acid," "liquid carbolic acid," etc., in a 2 per cent solution is an efficient disinfectant. It has the disadvantage, however, of being somewhat difficult to dissolve, so in preparing a disinfecting solution warm water should be used and care exercised that the drug is entirely dissolved. As the disinfecting power of cresol is dependent upon the amount of cresylic acid contained therein, it is essential when using the drug to know the degree of purity. Grades can be purchased under a guaranty to contain from 90 to 98 per cent of cresylic acid. Any containing less than 90 per cent should be rejected.

COMPOUND SOLUTION OF CRESOL.

Compound solution of cresol (liquor cresolis compositus), now recognized by the United States Pharmacopoeia as an official preparation, is composed of equal parts of cresol (U. S. P.) and linseed oil-potash soap. It is an efficient disinfectant in a 4 per cent solution and has the advantage of mixing readily with water.

DETAILS OF DISINFECTION.

In the practical work of disinfection there are three essentials:

1. A preparation of the building that will facilitate reaching organisms of disease.

2. A disinfectant which upon contact can be depended upon to destroy such organisms.

3. A method of applying the disinfectant that will assure the most thorough contact with the bacteria.

PREPARATION OF BUILDING.

Before beginning the use of a disinfectant it is essential that certain preliminary work be done in and about the stable that is to be treated. The various surfaces, such as ceiling, walls, partitions, floors, etc, should be swept until free from cobwebs and dust. Any accumulation of filth should be removed by scraping. In some cases the woodwork may have become softened and so porous as to be a good medium for the absorption of disease germs. Such woodwork should be removed, burned, and replaced with new material.

All refuse, manure, etc., from stable and barnyand should be removed to a place inaccessible to live stock and, if possible, be burned or thoroughly mixed with a solution of chlorid of lime in the proportion of 6 ounces to 1 gallon of water. If the floor is of earth, it will doubtless have become stained with urine and contaminated to a depth of several inches. In such cases 4 inches or more of the surface soil should be removed and treated as above suggested for refuse and excreta. All earth removed should be replaced with soil from an uncontaminated source, or better, a new floor of concrete may be laid, this being the most durable and sanitary material for the purpose.

SELECTION AND PREPARATION OF THE DISINFECTANT.

Having made ready the field of operation, the next consideration should be the selection and preparation of the disinfectant. The fact must not be overlooked that many agents used for the destruction of bacteria are likewise poisonous to animals and man. In fact, some drugs, although powerful as germicides, are so poisonous as to preclude their general use in the work of disinfection. Among such, as previously stated, is bichlorid of mercury, which possesses the power of destroying not only the bacteria, but spores as well. It is therefore essential in deciding upon an agent to select one having a known germicidal strength, properties of solubility, and at the same time possessing a reasonable degree of safety to animals and man.

All things considered, it is probable that some of the coal-tar products best fulfill these requirments. In this class is the compound solution of cresol, already mentioned, a preparation recognized as official by the United States Pharmacopœia and known as liquor cresolis compositus (U. S. P.). This preparation mixes readily with water and will prove a very efficient disinfectant. It should be used in the proportion of 4 or 5 ounces to each gallon of water.

Another favorable agent is cresol (commercially known as liquid carbolic acid.) It is not as soluble as liquor cresolis compositus and should be thoroughly stirred during the process of mixing, which will be facilitated by using hot water. It is advisable to secure a grade of the drug with a guaranty of 95 per cent pure, and such should be used in the proportion of 2 or 3 ounces to a gallon of water.

As an accessory preparation and for use after the application of the disinfectant it may be advisable to make ready a lime wash to each gallon of which there has been added 4 ounces of chlorid of lime, or if it appears desirable to use the disinfectant and lime wash at one application, the following method may be followed in preparing 5 gallons: Slake 7½ pounds of lime, using hot water if necessary to start action. Mix to a creamy consistency with water. Stir in 15 fluid ounces of cresol (commercially known as liquid carbolic acid) at least 95 per cent pure, and make up to 5 gallons by adding water. In case compound solution of cresol (liquor cresolis compositus) is used, add 30 fluid ounces instead of 15 as in the case of cresol (liquid carbolic acid). Stir thoroughly. If to be applied through a spray nozzle, strain through a wire sieve. Stir frequently when applying and keep covered when not in use.

In case a large surface is to be disinfected it will be advisable to prepare a liberal amount of the disinfecting solution before beginning the application. Such solutions, however, should not be permitted to remain in receptacles which are accessible to animals.

METHOD OF APPLICATION.

The efficacy and economy of the work will depend in a great measure upon the method of applying the disinfectant. Economy requires that the disinfecting solution be applied rapidly; efficiency requires that it be not only spread in such manner as to cover the entire surface requiring disinfection, but that sufficient quantity and force be used to drive the solution into all cracks and crevices.

Where a very limited surface is to be treated, as, for example, one stall, it may be possible to apply the disinfectant in a satisfactory manner by means of a whitewash brush. In all cases, however, the best method of applying the disinfectant and the lime wash is by means of a strong spray pump. Such should be equipped with not less than 15 feet of hose, to which may be attached a 5-foot section of iron pipe of the same caliber. With a spraying nozzle at the end of the pipe the operator will be enabled to proceed with the greatest possible dispatch and the least possible inconvenience.

The entire interior of the stable should be saturated with the disinfectant. Special attention should be given to the feeding troughs and drains. After this has dried the surface may be sprayed with lime wash, provided this has not been combined with the disinfectant; and when this process has been completed it will be advisable to open all doors and windows of the building for the admission of air and light.

THE USE OF PAINT ON THE FARM.

U. S. Department of Agriculture, Farmers' Bulletin No. 474.

INTRODUCTION.

There is probably no one point more neglected by the average farmer than the judicious use of paint, not only on his house and outbuildings, but also on machinery and various agricultural implements. It is perhaps the rule rather than the exception in some sections to see houses and agricultural implements on the farm sadly in need of paint. The idea seems to be prevalent that paint is used solely for ornamental purposes, and its use is regarded as a luxury rather than a necessity. While paint does, of course, serve the purpose of improving the appearance of property, it is far more useful for protection than for ornament. A small amount of money and work expended in keeping a valuable piece of machinery properly painted will add greatly to the length of its life. The same may be said of buildings. Another useful object which is accomplished by painting is the improved sanitary conditions of buildings and outhouses. It is not proposed in this bulletin to give instructions for artistic painting, or even for doing the class of work which would be expected of a first-class master painter, for such work can not be expected of one engaged in another business. But any man can do an average job of painting, and can thereby not only improve the appearance of his place, but can add greatly to the durability of all articles painted. The cost of such work is small, the necessary equipment is not expensive, and with proper care will last a long time. An attempt will be made to give directions for the care of paint and of the necessary tools used in its application and for the proper selection of different paints for various purposes, their preparation and application and their approximate cost.

Certain terms will be used frequently with a somewhat restricted meaning, and they are therefore defined as follows:

A paint is a mixture of a pigment with a vehicle and is intended to be spread in thin coats for protection or decoration or both.

A pigment is the fine, solid material used in the preparation of paint and is substantially insoluble in the vehicle.

The vehicle is the liquid portion of the paint.

Bearing in mind these definitions, it is seen that while varnish is used very much in the same manner as paint, it could not be properly classified as a paint, because it does not contain any solid particles of pigment. On the other hand, whitewash, which is not ordinarily called a paint (largely because of its cheapness), would comply with this definition very well.

BRUSHES AND OTHER IMPLEMENTS.

The only absolutely necessary implements are brushes. Probably the most generally useful brush is a round one with bristles about 6 inches long. Oval brushes from 2 to 2½ inches wide are also very good for general use, and a great deal of painting is done with 4 or 5 inch flat brushes.

Of these three types it is difficult to say which is the best, different painters having their own individual preferences. The advantage of a flat brush is that a greater amount of surface is covered at a stroke, with the disadvantage that the paint can not be as thoroughly rubbed in. On the whole, therefore, it is best to use a round brush. The 6-inch bristles are too long for proper working, and before being used a piece of cloth should be tied around the brush about 4 inches from the end of the bristles and 2 inches from the binding. As the bristles are worn off this sleeve or bridle, as it is called. may be pushed back, thus materially lengthening the life of the brush. For painting sashes and other small surfaces smaller brushes are necessary, the most satisfactory being the small oval brushes with a chiseled end. For varnishing, oval or flat brushes with somewhat shorter bristles are generally used. For the application of whitewash and calcimine a very much larger brush may be used, since these are applied lightly to the surface and are not rubbed in. A flat 8 or 9 inch whitewash brush may be used with practically as much ease as a smaller one.

In addition to the paint brushes, dusting brushes made of stiff bristles are useful for cleaning the surface before painting. For cleaning rusted metal surfaces, steel-wire brushes (2 or 3 inches wide and 6 inches long with wires about 3 inches long) are frequently necessary.

If ready-mixed paints are bought the cans may serve as buckets, but if the paint is mixed from the paste a strong tin bucket large enough to allow for stirring the paint will be necessary. Scraping knives and putty knives are necessary tools for the painter, and it is well to have one or two of each, but a very good scraper can be improvised from a piece of sheet iron, and an old kitchen knife may be ground to a square end and converted into a very serviceable putty knife. A paint strainer is useful, but two thicknesses of cheesecloth tied over the top of a bucket answers practically as well. Paint should be strained before using it.

CARE OF BRUSHES.

Brushes for applying oil paints must be well cleaned after using, though for keeping overnight it is generally sufficient to wrap them in several thicknesses of paper. Some painters keep their brushes overnight by putting them in water. If, however, the brush is not to be used for several days, the paint should be washed out of it. Turpentine is one of the most satisfactory materials for washing a brush, but it is expensive, and a brush can generally be washed as well with kerosene, which is much cheaper. After washing off the paint with kerosene the brush should be rinsed with gasoline or benzin, then thoroughly shaken and well washed with soap and warm water. As soon as this washing is complete the brush should be shaken thoroughly so as to throw as much water out of it as possible and hung up with the bristles down to dry; when dried the brush should be thoroughly protected from dust. If much painting is being done it is less trouble to keep the brushes in turpentine or kerosene. For this purpose hooks should be fastened on the inside of a pail with a close-fitting cover, the brushes being suspended either by holes in the handles or by loops of string, so that the brushes hang in the kerosene or turpentine in the bottom of the pail. The bristles should be submerged in the liquid, but should not touch the bottom of the pail. If kerosene is used for cleansing, it should be removed by shaking the brush and rinsing it in turpentine before using again with paint. Brushes used with whitewash or calcimine should simply be washed and not put in the same liquids in which the brushes used for oil paints are kept. If a brush has been used for shellac varnish it should be kept in alcohol or in the varnish itself. In general a varnish brush may be kept in the varnish in which it is used.

DRYING OF PAINTS.

Water paints such as whitewash and calcimine dry in the ordinary sense; that is, by evaporation of the liquid, which in the case of the two paints mentioned is water. The drying of oil paints, however, is quite different, and in order to understand this attention must be drawn to certain peculiarities of the so-called drying oils. Suppose four plates of glass are coated, one with a thin film of water, another with gasoline, another with a heavy mineral oil, and another with linseed oil, and all four plates are exposed to the air for several days. The water and gasoline will evaporate and leave the plates dry and practically in the condition in which they were before applying the liquid. The plate covered with the heavy mineral oil will be found to be greasy, while the plate covered with linseed oil will also have a coating on it, but this coat will first become tacky and finally set to a hard, varnish-like film. If this experiment is tried with other vegetable oils, such as olive oil, it will be found that some of them behave very much like the mineral oils; that is, there is very slight tendency toward the formation of a coating. Other oils, such as corn and soy bean, will behave in a manner similar to the linseed oil; that is, there will be the formation of a more or less tacky mass, with perhaps the final formation of a varnish-like material. None of the other common oils, however, will form the varnish-like coating so rapidly, nor will the coating be so hard as in the case of linseed oil.

Oils which behave like linseed oil are called drying oils. It will be seen from this illustration, however, that the term "drying" as applied to oil is not similar to the drying which takes place on the exposure of a material wet with water to the dry air. The drying of a substance wet with water is really the removal of the water by evaporation. The drying of a drying oil is a change taking place in the liquid. This change is accompanied by an absorption of oxygen from the air, and the drying does not take place in the absence of oxygen. It is hindered by moisture and hastened by sunlight.

The formation of this varnish-like film by the so-called drying of linseed oil is an exceedingly important operation in the drying of oil paints. Certain substances, compounds of lead and manganese, if dissolved in the oil, hasten drying. Boiled oil which contains compounds of lead or manganese, or both, will dry more rapidly than raw linseed oil. Instead of using boiled oil, however, the drying of the oil in paints is generally hastened by the addition of liquids known as driers. These liquids are composed of compounds of lead and manganese generally thinned with either turpentine or benzin, and are known as japan or japan driers. As before stated, while the use of a drier is necessary in a great many paints, the amount used should be small. It is a rather astonishing fact that many driers, if used in small proportions, will very materially hasten the drying of the linseed oil; whereas if a large amount of drier is added, the drying of the oil is retarded. There is another objection to the use of a large amount of drier, and that is that the film produced is not so durable as one produced by raw linseed oil alone or by the use of a raw oil containing the proper amount of drier. There are a number of other oils which have the property of drying like linseed oil, but none of them is the equal of linseed oil for a paint vehicle.

Bearing in mind these facts, it is seen that an oil paint would consist of the pigment mixed with a drying oil, preferably linseed oil, and generally with the addition of a drier. Some pigments, however, have the property of hastening the drying of linseed oil, and when they are used (red lead, for example) it is unnecessary to add any other drier. The varnish-like film left by linseed oil is for practical purposes insoluble in water. It is not, however, impervious to water. If a bright piece of iron covered with a coating of linseed oil, and afterwards thoroughly dried, is exposed to moisture it will be found that while the iron will not rust so fast as uncoated iron, the rusting will take place to a considerable extent. Other experiments can be performed which will demonstrate that moisture passes through this film with comparative ease. But, if an oil paint is employed—that is, a mixture of pigment and linseed oil—it will be found that the water does not penetrate through the film so rapidly as it does through the linseed-oil film alone. Also the paint film is more resistant to mechanical abrasion. While there is some difference of opinion among experts as to the amount of pigment which should be used in a paint, it is generally considered that the greater the amount of pigment the more resistant the paint film is, provided all the particles of pigment are thoroughly covered with the oil. It would appear, therefore, that a film of oil, while it may seem to be homogeneous even if examined under a high-power microscope, is really porous, and by mixture of the oil with the pigment the pores are more or less completely filled, thus making a more impervious film.

In addition to the linseed oil and drier, paints frequently contain volatile substances, such as turpentine and benzine. The addition of these is largely for the purpose of thinning the paint to a better working consistency, so that it can be spread in thin layers more easily. These volatile substances evaporate almost completely and do not remain behind in the dried film. The only substance remaining which binds the solid particles of the pigment together is the oil.

PREPARATION OF SURFACES FOR PAINTING.

All surfaces should be clean and as dry as possible before the application of an oil paint. Much new wood is very difficult to paint. The resins in such woods as yellow pine and spruce tend to destroy any paint that is laid over them. When possible, it is well to allow a new house to stand unpainted for at least six months or even a year after the woodwork has been completed. By this exposure to the weather the resins are brought to the surface and are either washed away or hardened, and the resulting wood surface is in much better condition for painting than is a new structure. An unpainted house, however, is an unsightly object, and it is often desired to paint a new house at once. Painters adopt several methods of treating new wood; probably the one most universally used is to coat all knots and other places where resin appears with shellac varnish, a solution of gum shellac in alcohol. Another plan is to mix with the priming coat of paint a small amount of benzol (coal-tar naptha), which is claimed by some excellent authorities on painting to dissolve the surface layer of resins and allow the paint pigment to penetrate into the fibers of the wood, preventing the final forcing of the resins to the surface. After applying the priming coat, all nail holes and cracks should be well filled with putty pressed in hard. Filling in with putty should not be attempted before the priming coat is applied, as it is not likely to stick as well.

In painting iron surfaces all rust and grease should be carefully removed, scraping the surface down to bright metal with wire brushes or sandpaper and finally dusting off all adhering particles.

Painting should be done in warm, dry weather. It is much better to select the summer time for painting than the winter. Not only does the paint not flow so well in cold weather, but the surfaces of the painted objects are more likely to be moist, and a little moisture underneath the paint film, either on wood or iron, is very apt to cause serious trouble.

PAINTING EXTERIOR WOODWORK.

All wood is more or less porous, and the natural result of applying a substance like paint to such a material is that the liquid portion sinks into the wood and leaves a large portion of the solid material on the surface. Also different parts of the wood will differ in porosity, and there will tend to be different amounts of paint left on different portions of the surface. In order to do a good job of painting it is practically always necessary to apply several coats to new wood. The first or priming coat is made thinner than the others, the amount of thinning depending upon the porosity of the wood. For ordinary pine, a paint of proper spreading consistency, when mixed with an equal volume of raw linseed oil, generally furnishes a good material for priming. With very porous wood, such as redwood, more oil may be added. The priming coat should be applied with as much care as any other and should be thoroughly brushed into the wood, the brushing being carefully done so that the paint is evenly distributed, with no tendency to run. It is the custom of many painters to add a great deal of drier and of turpentine to the priming coat, and to apply the other coats almost immediately after finishing the priming. This is not good practice. The paint for priming should consist of the pigment, linseed oil, and a minimum amount of drier, with no turpentine or benzin; and after applying it at least a week and preferably longer should elapse before putting on the second coat.

Three coats at least are generally necessary to make a good piece of work. The effect of the priming coat, if properly applied, is to fill the pores of the wood and furnish a foundation on which to apply the subsequent coats. Owing to the different porosity of different parts of the surface, it is almost impossible to completely fill with one priming coat, and an attempt to get a good effect by applying the finishing coat immediately on top of the priming generally results in failure. A second coat will not penetrate to any very great extent into the wood. It should not, however, dry with a gloss, because a glossy surface does not furnish a good foundation for the next coat. In order to prevent the gloss, most painters add turpentine to the paint for the second coat; the amount used, however, should be small—to each gallon of paint about a half pint of turpentine in hot weather, or a pint in cold weather, is sufficient. The second coat, which of course should have been evenly spread and well rubbed in with the brush, should be allowed to dry somewhat longer than the priming coat. The third, or finishing coat should be one which will dry with a gloss, and for this purpose there should be no turpentine or thinner added to the paint at all. This method is one which is advocated by a large majority of authorities on the painting of wood, but is seldom carried out by painters, the tendency being to add excessive amounts of turpentine or benzin, unduly thinning the paint and making it possible to spread it in thin, even coats with less labor than would be required for the same thinness and evenness when paint of a proper consistency is used.

INTERIOR PAINTING.

For oil painting exposed to the weather (outside painting) it is very important that a durable paint be selected, because even the best painted surfaces in time are destroyed by outdoor exposure. Inside of a house, however, the conditions are radically different. The painted surface is exposed to neither the extreme heat of the summer sun nor to the action of rain and frost to anything like the extent that outdoor painting is. In fact, any paint will last for a very long time inside. The main point in selecting a paint for this work is to choose one which will cover well the article to be painted and which contains colors that are permanent. The actual protective coating may be assumed to last as long as there is any necessity for it. Very light tints or very brilliant colors are likely to fade, and white paints containing a large amount of oil tend to turn yellow in dark rooms. The pigment lithopone, which is not suitable for outside work, can be used with satisfaction for interior painting. Calcimines, the so-called cold-water paints, in which no oil or expensive lead or zinc pigments are used, and which are, therefore, very much cheaper than oil paints, last very well on the inside; in fact, some of the oldest paintings in existence are fresco paintings made practically of calcimine.

For interior work the same directions apply as to outside painting, but it is not so important to have the final coating contain such a large amount of oil as to give a glossy finish. A dull finish is preferred by many people, and since this paint is not to be exposed to severe weather conditions, a larger amount of thinner may be used than for outside work. Also, paint for inside work should dry faster than one for the outside, and a somewhat larger amount of japan drier is generally used.

PAINTING OF METAL.

Tin or other metal roofing, also galvanized iron such as gutters and rain spouts, are very difficult to paint, as often the paint does not stick well. This is probably due to a very thin film of grease left on such material from the process of manufacture, and before attempting to paint a tin roof it is best to scrub it perfectly clean with soap and water or with cloths moistened with benzin, and then thoroughly dry before applying the paint. Galvanized iron may be treated in the same way, but it is much better to let this material stand for some time exposed to the weather before painting. The metal portions of machinery are generally cast iron or steel; wrought iron is rarely used, though it is more durable than steel. Cast iron is not so liable to rust as steel, and also the pieces are frequently thicker than the steel portions of a machine. There is perhaps nothing that actually needs paint for protection as much as the steel and iron portions of machinery. Before painting such material the greatest care should be taken to get the surface perfectly clean. Do not apply paint over rust, but clean thoroughly down to the bare metal with scrapers or wire brushes, and finally with dry scrubbing brushes. It is a mistake to spare labor in preparing a metal surface for paint. All oil and grease should be scrupulously removed, and the metal surface should be absolutely clean and dry before painting. The paint should be well brushed on, carefully filling all cracks.

Two or three coats of any good paint may be used. The paint which is generally supposed to protect iron from rusting better than any other is red lead. This is expensive, however, and rather hard to apply. The color also is some objection, although this can be overcome by mixing some dark pigment with it. The addition of a small amount of lampblack improves the color and the working quality of red-lead paint. A paint made of basic chromate of lead (so-called scarlet lead chromate, or American vermillion) is even better than red lead as a material for protecting iron. This also is very expensive, even more so than red lead, and while the protection is not so complete with the use of cheaper paints made of iron oxid pigments, on account of the fact that pieces of machinery are very likely to have the paint scratched and injured mechanically, it is perhaps best to use an iron oxid paint for most of such work, because of its cheapness. Any good oil paint will give valuable protection to iron if it is properly applied.

MIXING PAINTS.

Paints may be prepared either by mixing the dry pigments with oil and turpentine or benzin; or the paste pigments may be used. The latter are ground in a small amount of vehicle, generally linseed oil. The best pigments are exceedingly fine powders, and it is frequently a matter of considerable difficulty to mix such a powder uniformly with oil so as to have every particle in contact with the vehicle. On this account it is generally considered much easier to make up a paint from the paste pigments than from the dry, because the former have already been ground in a small amount of oil in a mill. When a can of paste pigment is opened all of it should be used immediately or it should be mixed with some oil and kept covered, since the paste is likely to harden and will then be ruined if exposed.

A very satisfactory hand paint mill can be bought for less than $10, and with such a mill the dry pigments may be mixed with oil and very satisfactory paints made directly. The claim is made, however, that many pigments require grinding under very heavy pressure to give the best results. Painters, therefore, generally prefer the use of paste pigments rather than the dry for most of their paint mixing. Besides the method of making up paints from the pigments, either dry or in paste form, with the necessary vehicle, the use of ready-mixed paints is very common, and for a small job they have an advantage, for no paint can be made properly without a large amount of grinding or stirring, and this is rather heavy work. The user of mixed paints, however, should have some method of estimating what the material he buys is really worth.

COMPOSITION OF PAINTS AND THEIR COST.

General Discussion.

It would probably not be denied by anyone that a better paint can be made in a well-equipped factory than by any individual at home or in a small shop. Many ready-mixed paints are of the very best quality, but many are of poor quality, made of cheap materials, and at the same time are sold with extravagant claims and for high prices. The number of different formulæ found on the market is enormous, and no attempt will be made to give a complete or even a representative list of them. An effort will be made, however, to give a few typical formulæ of paints and the methods of calculating the cost of making paints whose composition is known. A very good rule to follow in purchasing mixed paints is to buy nothing which does not bear the name of the manufacturer. If the manufacturer's name does not appear on the label this is very good presumptive evidence that he is not particularly proud of his product. Many State laws require that the composition of paints should also be stated on the labels, and a large number of the best manufacturers do this whether their products are sold in a State requiring such labeling or not.

The most expensive paints are generally white paints or very light tints. The reason for this is that there are comparatively few white pigments which have covering power, i. e., the property of hiding the surface of the material painted. Samples of dry white lead and of dry whiting look much alike. Both are white powders and a thin layer of each appears to be practically opaque. If, however, the two pigments are mixed in oil the whiting is quite transparent, while the white lead is opaque. All of the cheaper white pigments are more or less transparent in oil and are, therefore, deficient in covering power. White lead, zinc white, sublimed white lead, zinc lead, and lithopone are practically the only white pigments which have good covering power in oil. These pigments are all rather expensive, and as they are heavy it takes quite a large amount to make a paint.

Of the dark shades, there are a number of cheaper pigments which have very good covering power. It may be quite safely stated that for a white paint that really covers, some one or more of the white pigments just enumreated must be used. For a dark brown, however, a good covering can be obtained with an iron oxid pigment, which is very much cheaper. Therefore, for such paints there is no reason for using an expensive lead or zinc pigment.

ESTIMATED COST OF WHITE PAINTS.

A vehicle for outside paint of the best quality will generally consist of from 90 to 95 per cent of linseed oil and from 10 to 5 per cent of japan drier. A good japan drier has about the same specific gravity as linseed oil, and each may be considered to weigh about 7¾ pounds to the gallon. Of course, the prices of all paint materials vary, but at the present time linseed oil sells for approximately 90 cents a gallon, and a good grade of japan can be bought for $1.60. In making up paints, the drier should be mixed with the larger portion of the oil before adding the pigment. Using the prices and weights just given for linseed oil and japan drier, the liquid portion of a paint will cost about 95 cents a gallon, or 12¼ cents a pound. White lead, both dry and in the form of paste, costs approximately 7 cents a pound, zinc white approximately 8 cents a pound, and the other white pigments which cover well will not differ very much from these two in price. A gallon of white lead paint will weigh from 21 to 22 pounds. Fourteen pounds of dry white lead and 7¼ pounds of vehicle will make a gallon of paint and at the prices quoted the cost would be about $1.87; 15 pounds of paste lead and 6¼ pounds of vehicle will make a gallon of paint, costing $1.82; 9½ pounds of white zinc and 5¾ pounds of the paint vehicle will make a gallon of zinc white paint costing about $1.46.

Of course, these prices are based on an assumed cost for the ingredients, and to make an exact estimate it would be necessary to know the exact prices of the different materials entering into the paint. Many painters insist that a paint composed entirely of white lead, linseed oil, and drier is the best. Others contend that a mixture of white lead and zinc white is the best, and still others say that a mixture of these pigments with the cheaper white pigments which have slight covering power makes a better paint than the expensive pigments alone. It is probably true that a mixture of lead and zinc is superior to either pigment by itself, and also that the addition of a small amount of so-called inert pigments (silica, whiting, Barytes,china-clay, etc.) has no injurious effect on the paint and may even be beneficial. The addition of a large amount, however, of such pigments will give a paint deficient in covering power, and the addition should have the effect of cheapening the product. There is no reason why any mixed paint should cost per gallon more than a paint made entirely of white lead, oil, and the necessary drier. By ascertaining the market price of white lead and linseed oil the buyer should be able to calculate the maximum price for a mixed paint.

Two samples of ready-mixed white paints which were bought at the same time, at practically the same price, will give an illustration of the difference in price of such materials. No. 3361, a white paint, weighed 12.4 pounds to the gallon. The total paint consisted of 63 per cent pigment and 37 per cent vehicle. The pigment contained 30 per cent zinc lead, 13 per cent white lead, 7 per cent whiting, and 50 per cent barium sulphate. Assuming the value of the zinc lead to be the same as that of the white lead, 43 per cent of the pigment was worth 7 cents a pound, and assuming the value of the whiting and barium sulphate to be 1 cent a pound, 57 per cent of the pigment was worth 1 cent a pound. The average price per pound of the pigment would, therefore, be 3.58 cents. A gallon of the paint weighs 12.4 pounds, of which 63 per cent, or 7.812 pounds, is pigment; this, at 3.58 cents a pound, would cost 28 cents. Thirty-seven per cent of vehicle in the gallon of paint will weigh 4.588 pounds. In this paint it consisted of linseed oil and a cheap benzin drier costing about 11 cents a pound, or 50 cents for the vehicle. The total cost of the material in the paint, then, would be 78 cents per gallon.

Another paint, No. 3864, weighed 14.8 pounds per gallon and consisted of 58 per cent of pigment and 42 per cent of vehicle. The pigment was 55 per cent white lead and 45 per cent zinc white. If the price of these two pigments was 8 and 7 cents, respectively, the average price of the pigment in this paint would be 7.55 cents per pound. Since the gallon of paint weighed 14.8 pounds and contained 58 per cent of pigment, a gallon contained 8.584 pounds of pigment and 6.216 pounds of vehicle. The vehicle in this case was linseed oil and a good grade of turpentine drier. The pigment in this gallon of paint would be worth 65 cents (8.584x7.55) and the vehicle 76 cents (6.216x12.25). The total cost of the materials in this paint, therefore, would be $1.41.

These two paints, as before stated, were bought at the same time and at practically the same price. The prices paid would not be indicative of their value at the present day, since they were bought several years ago, when paint materials were considerably cheaper then they are now; but it is obvious that the margin of profit was very much greater on paint No. 3361 than on No. 3864.

ESTIMATED COST OF COLORED PAINTS.

Tinted paints, at least those of light tint, consist practically of white paint with the addition of a small amount of coloring matter. The coloring materials used in tinting are not uniform, and it is not possible, therefore, to give exact directions for producing a particular shade, since the amount of color used will depend upon the individual characteristics of the particular lot on hand. In general, gray tints are made from white paints by the addition of a black pigment, such as lampblack or bone black, and sometimes a small amount of red or blue is used also. The total amount of coloring matter employed varies, but rarely amounts to as much as 5 per cent. Buff may be made by the addition of mixtures of ocher and umber; brown, by the addition of mixtures of black, red, and sometimes yellow. Yellow and cream may be made by the addition of ocher or chrome yellow; frequently for this purpose golden ocher is used, which is ordinary ocher brightened by the addition of a small amount of chrome yellow. Blue tints may be made by the addition of small amounts of Prussian blue. This is a powerful tinting pigment, and it is seldom that more than 1 per cent is required. With the white paints which contain no lead, ultramarine blue may be used instead of Prussian blue; but ultramarine blue should not be used with lead paints.

Besides the tinted white paints, bright colors are sometimes desired, especially green, for blinds, and reds for the trimmings of houses or for machinery. These paints seldom contain any large amount of the expensive lead and zinc white pigments, but consist of comparatively small quantities of coloring matter and large amounts of the cheap white pigments. For black paints there is practically only one coloring substance, namely, carbon, which, however, occurs commercially in a number of forms. The color of so-called drop or ivory black is carbon, obtained from charred bone; lampblack is carbon in the form of soot. The latter, although very pure, does not make a satisfactory black alone, the heavier forms of carbon, such as bone black or even ground charcoal, producing a better black.

In the following table is given the composition of several tinted paints, and also of bright red, bright green, and black. The composition of individual lots of paint of any of these tints or colors might vary considerably from that given, and the table is only illustrative of the materials from which these different kinds of paints may be made. An estimate of the cost of the raw materials entering into the different formulæ is also included. The total cost per gallon does not make any allowance for labor or for containers, but is based solely upon the cost of the raw materials, assuming that white lead and sublimed white lead cost 7 cents a pound, white zinc 8 cents, and the other white pigments, barium sulphate, china-clay, whiting, and asbestine, 1 cent a pound. The price of the coloring material is given separately for each paint. These prices for the raw materials are a fair approximation of the retail price at the present time. In calculating the cost of the paints per gallon it is assumed that the vehicle in all cases is the same as that described heretofore and it is valued at 12¼ cents a pound. An inspection of the table shows that there is comparatively little difference in the cost of the materials entering into these paints, with the exception of black paint, which is considerably cheaper than any of the others. The red paint is colored by an expensive color, para-red, costing 78 cents a pound; the rest of the pigment, however, is cheap, and it will be noticed that the paint weighs only 11.6 pounds per gallon, whereas some of the others weigh much more.

Composition and cost of tinted and colored paints.

Data	Tints						Colored Paints		
	Gray	Buff	Yellow	Drab	Blue	Brown	Red	Green	Black
Percentage composition:									
Vehicle	43.4	43.0	45.0	41.0	43.0	49.0	57.0	34.0	65.0
White lead	------	------	13.0	------	------	12.0	------	------	------
Zinc white	21.0	21.0	25.0	21.0	22.0	24.0	2.0	------	------
Sublimed white lead	27.0	29.0	------	26.0	27.0	------	------	------	------
Barium sulphate	2.0	------	5.0	2.0	2.0	5.0	25.0	49.0	------
China-clay	5.0	------	------	4.0	4.0	------	------	------	------
Whiting	------	------	------	------	------	------	11.0	------	------
Ground slate	------	------	------	------	------	------	------	------	26.0
Asbestine	1.0	1.0	1.0	1.0	1.0	1.0	------	------	------
Color	.6	6.0	11.0	5.0	1.0	9.0	5.0	17.0	9.0
Total pigment	56.6	57.0	55.0	59.0	57.0	51.0	43.0	66.0	35.0
Nature of color	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)	(*g*)	(*h*)	(*i*)
Weight in pounds per gallon:									
Total	14.7	14.8	14.1	15.2	14.8	13.4	11.6	16.4	10.0
Pigment	8.32	8.44	7.76	8.97	8.44	6.83	4.99	10.82	3.50
Vehicle	6.38	6.36	6.34	6.23	6.36	6.57	6.61	5.58	6.50
Cost per pound dollars:									
Color	0.05	0.04	0.05	0.05	0.30	0.05	0.78	0.19	0.10
Total pigment	.065	.069	.066	.065	.070	.066	.103	.056	.033
Cost per gallon, dollars:									
Pigment	.541	.582	.512	.583	.591	.451	.514	.606	.116
Vehicle	.782	.779	.777	.763	.779	.805	.810	.684	.796
Total	1.32	1.36	1.29	1.35	1.37	1.26	1.32	1.29	.91

For dark shades of brown or red there is probably nothing which is as cheap as the oxid of iron pigments. These vary very much in shade, giving both browns and dull reds. A pigment that gives a very satisfactory reddish brown and contains about 40 per cent of iron oxid makes a satisfactory paint containing approximately 56 per cent pigment and 44 per cent vehicle, the vehicle being very much the same as that used in a first-class white paint. Such a paint will weigh about 13.5 pounds to the gallon, which, therefore, will contain 7.56 pounds of pigment and 5.94 pounds of vehicle. This pigment is cheap, generally costing not more than 1 or 1½ cents per pound. The pigment in a gallon of this paint, therefore, would cost aproximately 10 cents, and the 5.94 pounds of vehicle about 73 cents, giving a cost of 83 cents for the gallon of paint.

An inspection of these figures shows that the expensive part of this paint is the vehicle and not the pigment. A paint of this character is a very good material to apply either to wood or iron. There are more expensive paints, however, frequently used on iron to protect it from rusting, the most popular being red lead and linseed oil. This material undoubtedly affords very good protection, but it is also expensive. A red-lead paint can not be made and kept as most other paints can. The red lead itself

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[a] Bone black; tuscan red; ultramarine blue.
[b] Umber and ocher.
[c] Golden ocher.
[d] Ocher and bone black.
[e] Prussian blue.
[f] Bone black; venetian red; chrome yellow.
[g] Para-red.
[h] Five-sixths chrome yellow, one-sixth Prussian blue.
[i] Carbon.

causes the oil to dry, and no additional drier is necessary. In fact, red lead should not be mixed until just before it is used. A paint made of 70 per cent of red lead and 30 per cent of linseed oil will weigh about 19.8 pounds to the gallon. A gallon of paint, therefore, will contain 13.86 pounds of red lead, which costs about 8 cents a pound, making the cost of the pigment in a gallon of this paint approximately $1.11. The 30 per cent of linseed oil will weigh 5.94 pounds, and a gallon of linseed oil 7.75 pounds, costing about 90 cents at the present time, or 11.5 cents a pound. The oil in the paint will cost then about 68 cents, and a gallon of red-lead paint would cost $1.79, as compared with 83 cents for a gallon of oxid of iron paint. These two paints will cover about the same area of clean iron, and while somewhat better service might be expected from the red-lead paint, it is more than twice as expensive as the iron-oxid products.

WHITEWASH.

Whitewash is the cheapest of all paints, and for certain purposes it is the best. Lime, which is the basis of whitewash, makes a very sanitary coating, and is probably to be preferred for cellars and the interior of stables and other outbuildings. The following directions for making whitewash are taken from "White Paints and Painting Materials," by W. G. Scott:

ORDINARY WHITEWASH. This is made by slaking about 10 pounds of quicklime with 2 gallons of water.

The lime is placed in a pail and the water poured over it, after which the pail is covered with an old piece of carpet or cloth and allowed to stand for about an hour. With an insufficient amount of water, the lime is "scorched" and not all converted into hydrate; on the other hand, too much water retards the slaking by lowering the heat.

"Scorched" lime is generally lumpy and transparent, hence the use of the proper amount of water for slaking and an after addition of water to bring it to a brush consistency.

FACTORY WHITEWASH. (*Interiors*): For walls, ceilings, posts, etc.

(1) Sixty-two pounds (1 bushel) quicklime, slake with 15 gallons of water. Keep barrel covered until steam ceases to rise. Stir occasionally to prevent scorching.

(2) Two and one-half pounds rye flour, beat up in ½ gallon of cold water, then add 2 gallons of boiling water.

(3) Two and one-half pounds common rock salt, dissolve in 2½ gallons of hot water.

Mix (2) and (3), then pour into (1) and stir until all is well mixed.

This is the whitewash used in the large implement factories and recommended by the insurance companies. The above formula gives a product of perfect brush consistency.

WEATHERPROOF WHITEWASH. (*Exteriors*): For buildings, fences, etc.

(1) Sixty-two pounds (1 bushel) quicklime, slake with 12 gallons of hot water.

(2) Two pounds common table salt, 1 pound sulphate of zinc, dissolved in 2 gallons of boiling water.

(3) Two gallons skimmed milk.

Pour (2) into (1), then add the milk (3) and mix thoroughly.

Lighthouse whitewash. (1) Sixty-two pounds (1 bushel) quicklime, slake with 12 gallons of hot water.

(2) Twelve pounds rock salt, dissolve in 6 gallons of boiling water.

(3) Six pounds Portland cement.

Pour (2) into (1) and then add (3).

Note.—Alum added to a lime whitewash prevents it rubbing off. An ounce to the gallon is sufficient.

Flour paste answers the same purpose, but needs zinc sulphate as a preservative.

Molasses renders the lime more soluble and causes it to penetrate the wood or plaster surface; a pint of molasses to 5 gallons of whitewash is sufficient.

Silicate of soda solution (about 35° Baume) in the proportion of 1 to 10 of whitewash produces a fireproof cement.

A pound of cheap bar soap dissolved in a gallon of boiling water and added to about 5 gallons of thick whitewash will give it a gloss like oil paint.

An old receipt for whitewash, issued by the Lighthouse Board of the Treasury Department, said to be very good for outdoor exposure, is as follows:

Slake half a bushel of unslaked lime with boiling water, keeping it covered during the process. Strain it and add a peck of salt, dissolved in warm water; three pounds of ground rice put in boiling water and boiled to a thin paste; half a pound of powdered Spanish whiting and a pound of clear glue, dissolved in warm water; mix these well together and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace; and when used, put it on as hot at possible, with painters' whitewash brushes.

The washes which contain milk, flour, or glue are not to be advised for use in damp, interior places, owing to danger of decomposition of the organic matter. For such locations it is better to use one of the formulæ containing none of these ingredients. Whitewash is applied with a broad whitewash brush and is spread lightly over the surface, no attempt being made to brush it in as is the case with an oil paint.

CALCIMINE.

Cold water paints or calcimine have as their basis whiting or carbonate of lime instead of caustic lime, as in whitewash. This material itself does not adhere, and it is necessary to use a binder of some kind, generally glue or casein. Scott also gives the following directions for making calcimine:

Ordinary white stock. (*Calcimine*): (1) Sixteen pounds of dry Paris white (whiting) mixed until free of lumps, with 1 gallon boiling water.

(2) One-half pound white sizinz glue; soak 4 hours in one-eighth gallon cold water. Dissolve on a water-bath (gluepot) and pour into (1).

The above recipe makes about 2 gallons of stock, weighing 12¾ pounds per gallon. It is of proper brush consistency and may be used at once, but is better after standing half an hour. Any tint may be given the white stock by stirring the desired dry color in a little water and adding sufficient liquid color to the base.

The following data in regard to the covering capacity and time of applying was obtained as an average of several years' work from shop records:

One gallon covers on plaster=270 square feet.

One gallon covers on brick=180 square feet.

One gallon covers on wood=225 square feet.

A man in 1 hour, using a 5-inch brush, will coat the following amount of surface:

Rough walls=22 square yards (198 sq. ft.).

Smooth walls=38 square yards (342 sq. ft.).

Brick walls=20 square yards (180 sq. ft.).

Flat surface (bench or floor)=40 square yards.

Ceiling (with stepladder)=25 square yards.

DAMP-PROOF CALCIMINE. (*White stock*): For plastered walls. (1) Sixteen pounds Paris white or extra gilder's whiting, 1 gallon boiling water.

(2) One-half pound white sizing glue; soak 4 hours in one-eighth gallon cold water, then dissolve on a water bath.

(3) One-fourth pound phosphate of soda, dissolve in one-eighth gallon boiling water.

Mix (3) with (1), then add (2).

If a thick white stock is wanted, use half a gallon of water with the 16 pounds of Paris white instead of one gallon. For tinting, use colors that are not affected by lime, namely, yellow ochers, sienna, umbers, Venetian red, para-red, maroon oxid, ultramarine blue, ultramarine green, Chromium oxid, bone black, etc.

If lampblack is used for tinting, it must be stirred up in hot water containing a little soap or in cold water containing a little borax, the alkali overcoming the greasy nature of the lampblack.

PRECAUTIONS TO BE OBSERVED IN PAINTING..

Do not use any paints containing compounds of lead about stables or outbuildings where the fumes from the decaying organic matter occur, since these gases are likely to darken the lead paints. Do not use with lead compounds any pigments which may liberate compounds of sulphur. For example, ultramarine blue which contains sulphur in a form in which it may be set free is a beautiful and very permanent blue and may be used with zinc white, but should not be used with white lead or any other lead pigments. Prussian blue, on the contrary, does not contain sulphur and may be used with lead pigments.

Remember that turpentine and benzin are very inflammable, and especial precautions should be taken not to bring paint containing these substances near any light or open fire.

Many pigments are poisonous, and the workman should be particularly careful to remove all paint stains from the skin, and not under any circumstances allow any of it to get into his mouth. A man should not eat in the same clothes in which he has been painting, and before eating should not only change his clothes but wash all paint stains from his skin. It is not advisable to use turpentine or benzin in removing paint stains from the hands, but by oiling thoroughly with linseed oil, or, in fact, with any fatty oil, and then thoroughly washing with soap, the paint may be removed, provided it has not been allowed to dry too thoroughly on the hands.

ALFALFA IN THE CORN BELT.

Hugh G. Van Pelt, in Kimball's Dairy Farmer.

In all sections of the corn belt alfalfa is grown and in these same sections farmers are asking, "Will it grow?"

Careful consideration and much observation leads to the statement that few are the farms in the corn belt but alfalfa will grow thereon if the seed bed is properly prepared, the seeding carefully done and the crop properly cultivated.

The feeding and fertilizing value of this legume has long been known by many farmers and dairymen, and it is rapidly becoming recognized by the general rank and file that, where it is possible to grow alfalfa, farmers and especially dairy farmers want it. Hundreds of acres will be seeded to this useful nitrogen gathering plant this year, for in every part of the corn belt farmers are learning that alfalfa can be grown.

WHEN TO SEED.

In some sections spring seeding is advisable. In the more humid regions greater success usually results from fall seeding. This is because the plant is very frail and tender when it first makes its appearance and if sown in the spring it immediately enters into competition with rank growing weeds as soon as it comes up. Generally the weeds get the best of it and the alfalfa does not survive.

Furthermore, it seldom proves successful to seed alfalfa with a nurse crop because in the first place the tender plants do not thrive in competition with the ranker growing crop and when the grain is taken from the ground the alfalfa, accustomed to being shaded, suffers greatly from the heat of the sun and very often perishes.

Seeding in the fall after many of the weeds have been killed has proven most advisable in many sections. Where fall seeding is advisable, right now is the time that thought and consideration should be given to locating the experimental field and to the preparation of the soil.

Alfalfa should be growing on the farm of every reader of this magazine and by carefully following the advice given in these columns every reader can have a successful field. It is likely that some people will disagree with this statement, but in most instances failures are due to the lack of knowledge, persistency and careful attention to details on the part of the farmer, rather than to the location and character of the soil.

True it is that the best of farmers and those who strive most intelligently sometimes fail to secure a stand or from some other cause fail to grow a successful crop. This, however, does not signify that alfalfa will not grow on that particular farm. The same may be said of all varieties of grains and grasses. Older farmers, even in Iowa, can remember well in their experience certain years when corn while being cultivated the first time was killed with frost, and who has not known of corn failing to mature in the fall? Yet, none of us claim that corn will not grow in the corn belt. We have the proof that it will in that it is seen growing everywhere. So that with faith in our convictions we plant year after year and trust to our ability and knowledge as farmers and to the favors of nature to be enabled to harvest a crop in the fall.

With alfalfa growing by the thousands of acres throughout the corn belt and with no section that has not some thoughtful, studious, persistent man growing a field, large or small, we have the same proof that it will grow.

Therefore, whenever the farmers of the corn belt know as much about raising alfalfa as they now know about raising corn and with determination will apply the proper principles with the same manner of confidence and persistency alfalfa will be found easier to raise, a more certain crop and a greater source of value than any other legume, unless it be sweet clover.

This does not mean that those who have not heretofore raised alfalfa successfully should use a large acreage at this time, for without doubt the attempt to raise alfalfa extensively has been one of the chief factors of failure. Farmers in the middle west are corn raisers, not alfalfa growers. Their experience as boys and their education as farmers have been along lines of corn raising and up to this time they have given very little study and have had practically no experience in the raising of leguminous crops other than clover in a limited way. Experience must necessarily be their instructor. Therefore, the advisable plan is to begin right now in the following manner with a firm determination of continuing year after year, if necessary, with that careful and intelligent study and stick-to-itiveness that is sometimes necessary to learn how to raise this valuable corn balancing plant. When the mind is thoroughly made up that alfalfa will grow, the battle is half won and then, but not until then, is it worth while to proceed any further. Every portion of every farm will not grow the plant. With care and judgment a plot should be selected which this year has either been idle or grown early potatoes or small grain, special attention being given to location and drainage. Ground on which, or under which, water stands during certain portions of the year is avoided by experienced alfalfa growers because in the former case water resulting from spring thaws freezes and smothers out the crop, and water standing in the sub-soil too close to the surface prohibits root growth.

PREPARATION OF THE SOIL.

If a crop is grown on the land this season, much moisture has been removed and it is not likely that sufficient rain will fall between now and seeding time to make plowing possible. Therefore, moisture must be secured from below. This is not a difficult process. As soon as the early potatoes can possibly be dug or the small grain harvested and removed from the area the ground should be disked twice or more times if necessary and then disked crosswise an equal number of times to form a thick blanket of dust over the surface. This encourages capillary attraction, or the bringing up of moisture from below, which process may well continue for several days. During the meantime 10 or 12 loads of well rotted manure per acre should be distributed evenly over the surface. Even though the ground is already rich the manure will have a tendency to overcome the possible presence of acidity in the soil and give added strength to the plants when they have started.

It will now be possible to plow the ground and those who have never experienced the plan of filling the soil with moisture through the process of capillary attraction will be surprised how remarkably mellow the soil will turn over. The depth is largely dependent upon the plow used. From four to five inches will suffice, but if a deep plowing machine is available turning the soil to a depth of 12 or 14 inches is more advisable, providing the soil is sufficiently worked afterwards to assure firmness of seed bed.

It is well to follow the plow immediately with a roller to pulverize the clods, but whether the roller is available or not, harrowing and disking with persistency should begin at once. There is no specific number of times that the land should thus be worked. The seed bed must be like a garden. It must be covered with a deep blanket of dust so that through capillary attraction the moisture will continue to be drawn from below that it may be available to germinate the seeds when it comes time to sow them. The seed bed must be worked enough so that it will be firm and insure rapid and vigorous root growth.

The character of the season and the soil when preparations begin will determine the amount of work necessary but suffice to say there is more danger by far of under than over-working the soil. A firm, yet soft, mellow, dusty seed bed should be secured by the middle of July or the first of August. It may now remain in this condition until just before seeding time, unless in the meantime it rains, in which case as soon as permissible the ground should be harrowed thoroughly to regain the dust mulch which the rain has destroyed. This tends not only to retain the moisture which has fallen but continues to gain and retain the moisture from below and kills all weeds that may have started to grow.

INOCULATION.

Just prior to seeding, the soil should be furnished with bacteria of the character that grow nodules on the roots of alfalfa which have the power of taking from the air nitrogen to feed the growing plant.

This is the step that so many good, hard-headed, practical farmers refuse to take. It is the bugbear. It seems like book-farming, theory, science, or, to put it in plainer terms, just foolishness, to bring dirt from one place and distribute it over another. All right, if you don't care to do this, buy turnip seed instead of alfalfa seed. The ground you have so carefully prepared will grow turnips and perhaps alfalfa but I am not going to tell you that it will because I do not believe it. Anyway the process of inoculation is so easy and simple that the very fact that it is absolutely necessary and that the bacteria which may be furnished by inoculation are essential to the successful and permanent growth of alfalfa that the intelligent and thoughtful farmer will not risk their being present in the soil, or trust to their gaining access to the field of their own accord, but he puts them there before seeding is done. Otherwise he has no right to complain if next summer the alfalfa field begins turning yellow and the plants die a patch at a time.

There are several ways of inoculating the soil. One is by purchasing prepared cultures and treating the seed before planting. This perhaps is the easiest method. Another plan is to transport soil from a field where alfalfa has grown for several years or from along the road side where sweet clover grows luxuriantly. Sweet clover belongs to the same family as alfalfa and the bacteria that grow on the roots of one are the same as those which encourage the growth of the other. Therefore, dirt secured either from a sweet clover patch or from a successful alfalfa field may be hauled and distributed at the rate of from 150 to 300 pounds per acre over the prospective alfalfa field. This will insure success if all other conditions are right.

An excellent way to distribute the dirt where fertilizer distributors are not used is to build a crate 14 or 18 inches wide and the length of the harrow in use, making the bottom of slats. This crate may be attached to the front of the harrow and filled with inoculating dirt as often as necessary. By placing the slats at proper distances apart on the bottom the dirt may be distributed evenly and in proper amounts over the field.

TIME OF SEEDING.

It is most advisable to inoculate the ground just before seeding, which should occur from August 6th to 12th, depending somewhat upon location and climatic conditions. However, in most localities the dates given insure that if the ground has been properly prepared the seeds will find a warm, moist seed bed, germinate quickly and start a healthful, rapid root growth. Soon the fall rains will come, the ground becomes soaked and very rapid growth of the plants follow until the appearance of frost.

SEEDING.

Twenty pounds of first class seed per acre should be used. Broadcasting and harrowing is often successfully practiced but drilling is more advisable. This places each seed in the soil at a depth of from one-quarter to one-half inch, where it will at once come in contact with the moisture which insures quicker and more certain germination and a more thorough covering of the roots and less liability to freezing out in the winter. In many instances seeds that are broadcasted germinate on top of or very close to the surface of the ground and so have little root to withstand sudden changes in climate. If the drill is used it is possible to sow half of the seed driving in one direction and sow the remainder in the opposite direction, making rows running both ways, encouraging a thick stand.

VARIETIES.

There are many varieties of alfalfa and indications point to the fact that in time every section will have a variety successful under local conditions, but at the present time throughout the corn belt Turkestan and Grimm varieties are most generally used. They can be secured from all reliable seed dealers. In choosing seed it is always advisable to select that which has been raised under conditions as nearly identical as possible with those under which it is expected to grow.

Close attention to details will insure an excellent stand of alfalfa. With little or no interference from weeds it will grow vigorously following the fall rains which seldom fail to appear during the latter part of August and September. Crops should stand six or eight inches high by the time the ground freezes. This should not be cut but allowed to protect the roots from being killed during the winter and spring.

Thus far the process has been simple. Few will fail to secure a stand the first year. Far more careless methods will answer and up to this point those who do not take the trouble to inoculate the soil will succeed as well as those who do. The perplexing question, now that all prospects for a successful alfalfa field are so apparent, is, will it survive? Is not an acre of alfalfa that will yield annually from $75 to $100 and place in the soil much valuable fertility worthy of as much intelligent care and work as an acre of corn that will yield $25 to $30, at the same time taking from the soil much valuable fertility?

It is generally conceded that throughout the corn belt systematic crop rotation is essential. In order for any perennial crop such as alfalfa to fit into an approved system it should be plowed up at the end of two to four years.

At the present time those who are succesful enough to perpetuate from year to year an alfalfa field dislike to destroy it, fearing difficulty and dreading the expense of securing another. A knowledge of the plant, and its habits, makes the securing of a stand so simple and certain that the time is not far distant when farmers will consider it a pleasure to plow up the older field, the place of which is already taken by a newer. They will realize that breaking up alfalfa sod is one of the chief advantages of raising alfalfa. The power the plant has through the bacteria which grow on the roots of placing nitrogen into the soil makes it possible to grow from 10 to 20 bushels more corn per acre following the growth of alfalfa than prior to seeding.

One of the most prevalent excuses for not raising alfalfa in the corn belt is that, after it has grown on one area for three or four years, blue grass crowds it out. Little does he who makes the excuse realize that in doing so blue grass has proven a blessing in disguise. All that is necessary is to carefully prepare another field and eventually the whole farm or all portions of it suitable to growing this valuable legume will be so thoroughly inoculated that alfalfa will be easier to grow by far than clover is today.

There is danger of alfalfa being killed every winter, although as a rule it lives through and comes on vigorously in the spring. Those who have tried growing it once or twice and have met with this result have become discouraged. Lacking persistency they now claim it will not withstand freezing out because of cold winters. The fact is that seldom if ever does it become cold enough to freeze out this hardy plant. Instead it is the alternate freezing and thawing during the spring which cracks and heaves the ground and breaks off the roots of the plant, making it die. By overcoming this objection the problem of successfully growing alfalfa is solved, for it is easy enough to master all other adverse conditions.

The application of a top dressing each fall after the ground has frozen or even after the field has become covered with snow will have a tendency to hold the frost in the ground until such time as the danger of freezing and heaving of the ground is past. Some successful growers top dress their fields with horse manure, raking it off again the following spring. This makes extra work, however, so that where well rotted manure is available its use is advised, for not only does it protect the alfalfa from alternate freezing and thawing but by adding richness to the soil stimulates quick and vigorous growth in the spring.

Top dressing means work, it is true, and the question arises, is it worth while? The answer to this may well be, whatever is worth doing at all is worth doing well, and the warning may be well given. Unless the work pertaining to growing alfalfa is well done the task is not worth while, for alfalfa refuses to respond to careless methods and will not grow a half a crop at a time as will many other grasses. If proper methods are employed it will grow and produce in great volumes, otherwise it will not grow at all. All experience teaches these facts.

I have in mind a section some 45 miles northeast of St. Louis where practically every farmer had tried to grow alfalfa, failed and it was generally agreed that the crop was not a success there. During the year 1905 the writer, having charge of the Auten Farm where scores of tons of alfalfa were fed annually, decided to try growing it even under these supposed adverse conditions. The first of July a field of fall wheat was harvested and the shocks removed from a 10-acre tract which promised to be most suitable from the standpoint of location and drainage. There was a possibility that the soil might be acid. Alfalfa refuses to grow in such soils because acid kills the bacteria that grow on the roots.

To determine this five cents worth of litmus paper was purchased at the drug store, a handful of the soil moistened and placed upon the paper. The blue of the paper was soon turned to pink by the moistened soil. This reaction indicated definitely the presence of acid and proved the necessity of using lime on the soil to neutralize it or the application of a heavy coating of well rotted manure.

After removing the harvested grain one man and a four-horse team were put to work discing the field. There was no defiinite number of times allotted for the discing. It was to be continued first one way and then another until a deep dust mulch had been provided. Following this

12 loads of well rotted manure were evenly spread over each acre. Better results by far would have been secured from the use of 150 pounds of ground limestone per acre in addition, but not being readily available and the time for seeding close at hand it was not used until the following year.

It was a very dry summer and experienced farmers laughed at the idea of trying to plow in that section of the country in July. Nevertheless the dust mulch accomplished the purpose for which it was provided. Moisture was brought up from below by capillary attraction so that by the middle of July the ground plowed as readily as it would in the spring.

Each day that portion of the field which had been plowed was rolled to break up the clods and immediately harrowed to re-establish capillary attraction and eliminate as much as possible the evaporation of moisture from the soil. When the whole 10-acre field had been plowed, discing and harrowing began in earnest. Day after day during the hot month of July one man and four horses were busy working over the ground firming the seed bed, pulverizing the dirt and providing a surface that would insure with a certainty sufficient soil moisture to germinate seeds, regardless of the drouth which so invariably occurs in most sections of the corn belt during the summer.

Good farmers with long experience began to doubt the sanity of this farm management and when finally the time came for driving a team and wagon five miles to secure a load of dirt from along the roadside where sweet clover was growing luxuriantly it was generally conceded that no such fool farming had ever before taken place in that county.

The dirt was distributed by the use of a fertilizer distributor over the soil and on the 10th day of August 200 pounds of Turkestan alfalfa seed were drilled into the soil from a half to three-quarters of an inch deep. So certain were the older farmers that alfalfa would not grow and so ridiculous had my operations appeared to the neighbors that on that hot day when the only indication of success was an inch of dust over the surface of the field with a moist seed bed below and the fact that I had done everything possible to merit success, I began to doubt the practicability of the process myself. Within two weeks the alfalfa made its appearance, the fall rains came and by November there was an excellent stand six inches tall.

Every year since that field has been cut from three to four times, yielding from 75 to 100 tons of alfalfa hay worth in the neighborhood of $20 per ton. The neighbors who ridiculed began to believe it was worth while and each one has since tried to raise alfalfa. Last year the owner of Auten Farm advised me that blue grass had begun to take the field and that for the past three years he had tried without success to establish new fields and his neighbors have done likewise. He wished the secret for growing alfalfa successfully.

In reply to the inquiry as to whether or not the many attempts had been accompanied with inoculating the ground with sweet clover soil he advised that it was generally conceded that in that section soil inoculation was unnecessary. As a result only the one field, seven years old now and almost killed out with blue grass, is all the alfalfa that is growing in that vicinity, although thousands of dollars and many days' work have been wasted in the partial attempt to secure other fields.

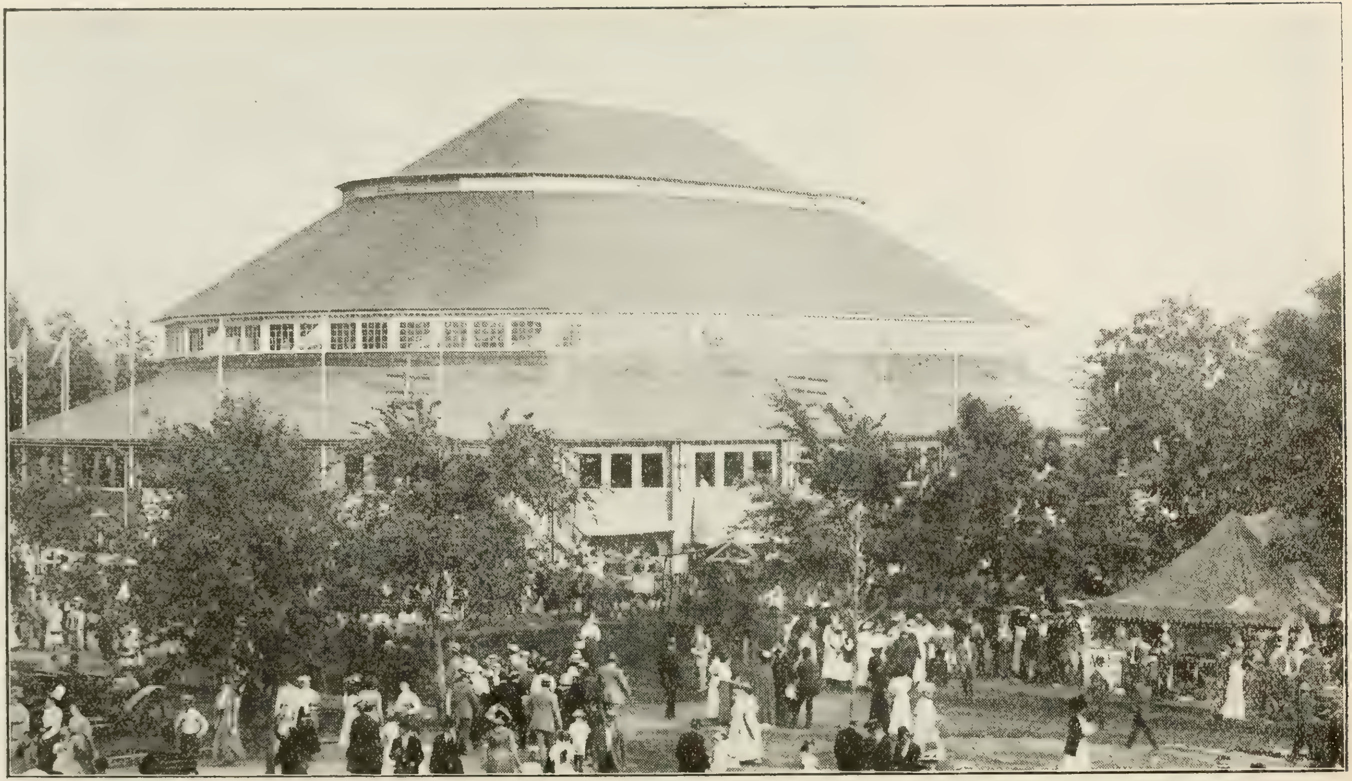
In 1907 the writer seeded another field prepared in identically the same manner, with one exception, after a crop of barley had been removed from the ground. Good authority advised that if enough manure was used on the ground inoculation was unnecessary. As a result, after applying 12 loads of well rotted manure to the acre and carefully preparing a seed bed, the seed was planted without inoculation. An excellent stand was secured in the fall and it came well the following spring, giving every indication of a successful crop.

Later the plants began to turn yellow here and there over the entire field. In these patches they died so that when cutting time arrived there was not enough alfalfa remaining to pay for harvesting. It was not because alfalfa would not grow in that particular vicinity but because one of the essential requirements had been neglected.

The field was again prepared and this time a wagon load of dirt secured from a sweet clover field was scattered over the six acres. There were no better prospects for a crop the following year but the plants instead of turning yellow and dying continued to thrive until the middle of June when three tons of excellent hay per acre were harvested. The second cutting provided two more tons and a third cutting in September would have provided another two tons but, fearing that the roots would be destroyed during the winter, the last growth was left to protect them. Since that time from six to eight tons of alfalfa have been harvested annually.

Last year during the severe drouth this alfalfa field was the only place in its vicinity where green plants were growing. This year three tons of excellent hay per acre have already been harvested and without doubt two more cuttings of at least two tons each will be secured.

These instances together with thousands of others that might be cited illustrate that alfalfa can be grown successfully and with a certainty if certain vital points learned through knowledge and experience will be practiced. They also indicate that failures are due to a lack of knowledge, experience and persistency, and the presence of erroneous ideas on the part of the grower rather than to a failure of the plant to suit itself to climatic conditions.



LIVE STOCK PAVILION, IOWA STATE FAIR AND EXPOSITION GROUNDS.

PART XI

IOWA STATE FAIR AND EXPOSITION, 1911

Press Reports and Live Stock Awards

Results in Boys' Judging and Girls' Cooking Contest

PRESS REPORTS.

The Iowa Homestead, Des Moines.

With an attendance 21,000 larger than in 1910 and total receipts $25,000 greater, the 1911 Iowa State Fair proved to be the biggest and best of any of the fifty-seven annual exhibitions which the Hawkeye state has held. A quarter of a million people witnessed the exhibition at Des Moines last week. The net profits to the management are computed to be close to $50,000.

Conceding that there is no surer barometer of prosperity than the attendance upon and patronage of the various state fairs, agricultural affairs in Iowa must now be recognized as in better condition than for many years past. Pessimistic predictions were freely indulged in during the early summer. The crop season started out most auspiciously, never had hopes of a bumper crop been better. But along came June weather, which instead of being that rare thing of which the poets sing, was nothing more or less than so many furnace blasts of withering, blasting heat. The farmers' faces became long. Men of the city talked of hard times on the farm. The hay crop was a practical failure. The oats crop was below normal. It was freely predicted that the corn crop would show a falling off of millions upon millions of bushels.

And then, in this crisis of pessimism, came the Iowa State Fair, opening the western circuit of expositions. The exhibts were more in number and better in quality than ever before. In every live stock department the pens were crowded, while disappointed prospective exhibitors were turned away for lack of room. The agricultural and horticultural building was literally packed with the finest specimens of fruit that Iowa has grown in many years. And the people came from the farm to see the exhibits in numbers larger than ever before. Fifty thousand visitors were hauled to Des Moines in one day by the railroads entering the capital city. Nor were these visitors parsimonious. They had money to spend and they spent it freely. They paid the state fair management $175,643.29, whereas in the previous year they had paid but $151,933.20. They left immense sums in the stores, going on extensive shopping expeditions. Iowa rubbed its eyes. Surely here were not the impoverished farmers of whom it had been prating so glibly.

And so, to the direct educational value of the state fair held at Des Moines last week, must be added the immense value of the exposition in setting the farmer's condition right before the world. There could be no surer or better criterion of the continued prosperity which is his, of the farmer's ability to buy what he wants and needs and of the farmer's capacity for play as well as for work.

The Tuesday attendance of 62,699 was the record for the fifty-seven years which Iowa has been holding state fairs, the best mark previous to that being 59,000, reached in 1910. In every way and from every point of view the 1911 fair was an unqualified success and sets a record which it will be hard for Iowa, with all its splendid resources and unbounded faith in its continued agricultural prosperity, to eclipse.

Both the state fair management and the city of Des Moines profited by the experience of former years and dispensed with the grievous overcharge practice which was one of the well-founded complaints of visitors to former fairs. Supt. W. C. Brown of the concession department revoked the license of one or two refreshment booths which were found charging visitors more for the meals than the price quoted by the announcer, while the Commercial Club of Des Moines refused to send prospective roomers to private houses which charged more than the price which the club had set as reasonable. It is an undisputable fact that in former years Des Moines has taken unfair advantage of state fair visitors and charged exorbitant prices for ordinary, routine service. The city has learned, however, that this policy would not only redound to its own disadvantage, but, in the course of time, would cut down the attendance of the state fair, so that monetary loss would be inevitable. With the single exception of the Greek proprietors of the shoe shining parlors, no class of public providers acted in unison in raising prices. State fair visitors leave large quantities of money in Des Moines, both for their expenses during the week and on shopping tours, and Des Moines showed this year that it appreciates this patronage and liberality and does not propose to take unfair advantage of its visitors.

Although the weather at times might have been considered a trifle too cool to be ideal it was the first time in many years that visitors were enabled to attend the fair in absolute climatic comfort. The days were invariably cool and pleasant so that there was none of the suffering from heat which usually attends the state fair. The nights were cool to the point of chilliness, but notwithstanding this the attendance at the night exhibitions was invariably large. For the first time in many years no rain fell throughout the entire week. As a rule one or two days are spoiled by showers, but the 1911 fair will go down in history as having weather so nearly perfect that only the most confirmed pessimist would have any ground to complain.

The exhibition in the Iowa State College building attracted much attention and showed the practical nature of the work being carried on at the college, in the various departments. For instance, in one portion were several glass cases showing the relative corn yields resulting from different numbers of kernels of seed planted to the hill, one kernel to the hill yielding thirty-four bushels to the acre, two to the hill fifty-four bushels, three to the hill sixty-three bushels, four to the hill sixty-seven bushels. In another section of the building was the butter yield for the year of the two-and-one-half-year-old Guernsey Imp. Rouge of the Brickfield, 714 pounds altogether, being the world's record for a two-and-one-half-year-old cow of this breed. Near by was a striking object lesson showing a comparison of the best and poorest cows in two Iowa test associations, $107 being the net profit from the best cow and seventy-seven cents being the net profit from the poorest cow. The best cow produced 480 pounds of butter in a year and the poorest only eighty-seven pounds. The net profit of the best 200 cows in this experiment was $52, with the cost of feed $36, showing a net profit per cow of $16. The net profit of the poorest 200 cows was only $20, while the feed cost $30, showing a net loss per cow of $10. Elsewhere in the exhibit was a soil map of Iowa showing results of alfalfa growing, different colored pins showing in what counties alfalfa has been grown successfully, where it has yielded fairly good results and where the attempt has met with failure. No visitor to the Iowa State Fair can afford not to spend some time in the Iowa State College building looking at the results of the experiments which are being carried on to make farming in Iowa more sure and more profitable.

The aeroplane flights throughout the week were invariably successful, although one afternoon they were postponed to a late hour on account of the high winds prevailing. The Wright Brothers sent two of their best-known birdmen: Philip Parmalee and Clifford Turpin. As a rule the flights were of the safe and sane order, although on two different occasions Mr. Parmalee showed the spectacular possibilities of the aeroplane by cutting sharp figure eights and by volplaning, or dipping, long distances. The intent of the flights, however, was to show the practical possibilities of these heavier-than-air machines, rather than the spectacular possibilities. With this as a criterion, the flights were undoubtedly successful. This was the first time that heaver-than-air flying machines had been exhibited at the Iowa State Fair and the two flights daily proved to be a splendid drawing card. It is an inspiring sight to see the extent to which man has conquered the air within the past two years and there will be thousands of visitors to Des Moines who will remember the aeroplane flights long after they have forgotten many of the other interesting features of this year's fair.

Notwithstanding the recent street car strike, which promised for a time to cripple the company, the service throughout the entire city was the best of any year. The street car company is under new management and, preparing for the immense crowds of fair visitors, had purchased twenty-five new cars of the latest and most improved type. One-minute service was maintained to and from the fair grounds and there was little of the overcrowding and still less of the discourteous treatment at the hands of conductors and motormen noticeable in former years. Shuttle trains were run as formerly and there was little or no difficulty in getting to and from the fair ground. The officials of the street car company announce that on Tuesday 175,000 cash fares were taken in on all the lines, the record receipts for any year.

The results of a unique and interesting experiment, conducted by Prof. W. A. Lippincott, of the Iowa State College, were shown in the poultry building. By feeding different dyes to the hens, Professor Lippincott has succeeded in having the yolk and albumen colored with the colors of the college. The yolk was colored by feeding a fat stain called Sudan III, while the white was colored by feeding a protein stain called Rhodamine red. The eggs thus colored were hard boiled and cut in two, showing the different colors in distinct circles. The experiment is without any practical value, but shows the possibility of changing the food value of the eggs by substances fed to the hens. Exhibited in this same display of the Iowa State College in the poultry building were dressed chickens, the flesh and feathers of which had been colored by feeding dyes. Practical demonstrations were giving in trussing and boning chickens, while charts displayed on the walls gave valuable suggestions as to the care of eggs and of laying hens.

That Iowa raised a bumper crop of apples this year was evidenced by the splendid display of this fruit in the horticultural building. The best apple specimens that have been exhibited in many years were piled high upon the tables. Practical instruction was given in apple packing by a farmer from the Hood River country of Oregon. Western horticulturists have mastered the art of apple packing to a high degree and it was noticeable that many of those who were taking instruction from this Hood River expert were Ames college students. Fruit exhibited this year was perfectly clean and free from insects and worms. The utmost interest was shown by Iowa fruit men in the exhibit of spraying materials and machines and in the instruction given by the exhibitors.

The value of state fairs as educators to the farmers who attend them has often been commented upon, but the fact that they are educating the city man as to the prosperity of the farmers has not been so widely exploited. During the past week one of the Des Moines daily newspapers published this interesting commentary on the changed appearance of the farmers of today: "What has become of Josh Spruceby, the old-time farmer with the broad-rimmed straw hat, the hickory shirt, the single gallus, the high boots, the chin whiskers, and the straw which always is supposed to stick out of his mouth? He is not at the state fair this year. However, there are several agriculturists there in his place. They came in their automobiles. It is too near September 1st for them to wear straw hats of any variety. They never saw a pair of leather boots and most of them wear silk socks. They don't need a straw to tell which way the wind is blowing, they telephone the weather man anytime they want that information. Hundreds and thousands of city men will have the 1911 Iowa State Fair to thank for a changed conception of the condition and appearance of the farmer. Notwithstanding the farmers' widespread prosperity there are too many city men who still think of him in the light of the Denman Thompson character in "The Old Homestead." When the accounting is made as to whether state fairs are really worth their price, this factor of the city man's enlightenment should not be overlooked.

Ezra Meeker and his famous prairie schooner and ox team were stationed on the grounds and attracted much attention, particularly on the part of the pioneers. The wagon which Mr. Meeker exhibited was built in large part from the original prairie schooner in which he crossed the country in 1852, following the famous old Oregon trail. In 1906, Mr. Meeker started from his home in Puyallup, Washington, and retraced his original journey along the historic trail to its termination on the Missouri river, then across Iowa and Illinois to his Indiana home. Mr. Meeker is attending the various state fairs of the grain belt in a campaign to interest the people in regard to the Oregon trial, which he hopes to have permanently marked by stone monuments. Mr. Meeker is endeavoring to secure an appropriation from congress for this purpose and believes that if he can sufficently arouse public sentiment the work will be carried on before the last evidences of the trail have forever disappeared.

The Iowa fish and game exhibit, held in a tent near the live stock pavilion, although not as extensive as the exhibit of last year, was highly interesting and attracted thousands of visitors. Iowa is behind other states of the grain belt, notably Minnesota, in this matter of interesting state fair visitors in its fish and game possibilities. Warden Lincoln is to be congratulated on making as good a showing as possible with the funds available. It will be recalled that interest in pheasants was awakened at the fair last year, with the result that hundreds of farmers were supplied with these birds and have learned their utility. With such an excellent showing made under such adverse circumstances the past two years it begins to look as though this department would soon be entitled to a permanent display building such as the one which so interests visitors at the Minnesota State Fair.

Attendance at the fair any day was sufficient to convince the most casual observer that the farmer is buying and running automobiles in large numbers. One of the visitors took the trouble to count the number of automobiles entering the fair grounds during one hour and found the number to be 337. This observer estimated that fully two-thirds, and possibly three-fourths of this number were driven by farmers. Eighty-five cars passed through one gate within ten minutes. The various roads in the fair grounds were continuously lined with automobiles and it was very noticeable that in a great majority of cases the drivers and a majority of the occupants were residents of the farm.

Fair visitors were most enthusiastic over the work of the Scotch sheep dogs. The tests fully proved the almost human intelligence of these faithful brutes, but they were conducted under disadvantages which made it impossible for them to display their herding ability to the utmost. The tests were carried on by loosening four sheep on the track. The dogs were stationed 250 yards distant and at the command of their master sped up the track and began the task of driving the sheep to the pen 250 yards away. The task was made all the more difficult by reason of the fact that none of the sheep had ever been driven by dogs before and in their strenuous efforts to get away darted hither and thither through the crowd of people who lined the track and the automobiles gathered in the paddock. The dogs never failed to land the sheep in the pen, notwithstanding these difficulties, and were usually given a hearty round of applause. Had it been possible to have the tests in the open, where the dogs would not have been bothered by the people, they would have been more interesting and valuable. The feature was a new one to state fair visitors, however, and well worth the time devoted to it.

It is regrettable, after having conducted the sideshow attractions on a high plane for several years past, that the management should have permitted a concession known as The Streets of Cairo to have flaunted its indecency in the face of the public throughout the entire week. Prior to every performance some eight or ten girls were exhibited on a platform and by muscular gyrations and surreptitious winks gave an idea to the masculine portion of the spectators as to what might be expected inside the tent. The main part of the performance was a commonplace exhibition of dances of various Oriental countries given by alleged natives, the performance culminating in an objectionable dance so nearly akin to the tabooed hoochi koochi dance of a few years ago as to deserve no place whatever in any exhibition open to the public under the management and sanction of the great state of Iowa. The dance consisted of suggestive and licentious gyrating and posturing, which was merely and plainly an appeal to masculine passions. To make the exhibition all the worse it invariably aroused comments from the masculine portion of the audience. There were few times when the women who had entered the tent, on the representation of the spieler outside that the show was a fit one for women and children, were not obliged to leave because of outraged decency. It is sincerely to be hoped that the 1912 state fair will not be disgraced by any such exhibition.

The post of secretary, made vacant when Mr. John C. Simpson accepted the secretaryship of the Minnesota State Fair Association, has been filled most creditably by Mr. A. R. Corey, who seems to be admirably adapted to the position permanently. Mr. Corey showed by his management of the 1911 fair that he possesses marked executive ability. There were no hitches or delays in any of the arrangements, while the schedule of events and the details connected with the innumerable exhibits were arranged with a sureness and a care which would indicate that Mr. Corey is the right man for the Simpson succession. Mr. Corey is a young man, ambitious and industrious, and has already won the esteem and hearty praise of most of the members of the state fair board. It is highly probable that he will be elected to the secretaryship. If so, The Homestead believes that he will give the utmost satisfaction.

Following the annual custom the feature of Friday, the closing day, was the million dollar parade of the live stock winners. The winners passed in review before an enthusiastic crowd which completely filled the amphitheater. Not in recent years have better specimens been exhibited in the various departments, nor have the entries so conclusively shown that Iowa has attained to a front rank among the live stock breeding states of the nation. Officials of the Minnesota and Wisconsin fair boards who were present during the week declared that it must be conceded that the Iowa State Fair surpasses not only their own exhibitions, but the fairs of all other states in this matter of live stock. Secretary Simpson of Minnesota voiced the sentiment of the visiting delegations when he declared: 'The Iowa live stock show is the greatest of its kind ever held in the world." One had but to ramble casually through almost any one of the live stock barns to be convinced that Secretary Simpson's verdict was the correct one.

Many compliments were passed upon the new machinery hall. The need of such a structure was shown at the 1910 fair, when acres of canvas were required because the former machinery building was insufficient to house the large number of exhibits. During the past year the state fair board erected a new, permanent machinery hall of steel and brick, the architecture of which is in keeping with the other splendid buildings on the grounds. This new building was completely filled with a high grade of machinery. The building is not only useful for this purpose, but, on account of its large area, will be useful in an emergency to protect the people in the case of inclement weather. It is a notable fact that the number of machinery exhibits has been increasing from year to year, while the quality is of a type which shows that the Iowa farmer is purchasing only the latest and most improved styles.

Thursday was devoted to the pioneers of Iowa, who were in attendance in large numbers. Superintendent F. B. Osborn, of Rippey, is authority for the statement that 2,500 Iowans, who located in the state prior to December 31, 1876, registered at headquarters. Of this number it is estimated that 500 were residents of Iowa when it was yet a territory, before its admission to statehood in 1846. The old settlers formed a permanent organization with Col. Alonzo Abernathy, of Osage, president. Work to bring about such an association was begun two years ago by Superintendent F. B. Osborn and others, including Curator E. R. Harlan, of the Iowa State Museum. Mr. Harlan was made secretary, Acting Secretary A. R. Corey, of the state fair board treasurer, and F. B. Osborn, superintendent. Eleven vice-presidents were elected, one for each congressional district. They are Captain Lot Abraham, Mount Pleasant; James W. Ellis, Maquoketa; Clifford Ham, Dubuque; J. H. Sweeney, Osage; Bernard Murphy, Vinton; P. B. Perry, Albia; Frank DeFord, Valley Junction; I. N. Clark, Leon; John Ward, Audubon; Judge J. P. Conner, Denison; George D. Perkins, Sioux City. Addresses were delivered to the pioneers by Governor Carroll, Senator Cummins, Ezra Meeker and others. Secretary James Wilson, of the department of agriculture, had accepted an invitation to be present, but for some reason did not appear.

CATTLE.

Despite the fact that this has been a season of extremes and for a large part sorely perplexing to the stockmen, the cattle displays were again important and attractive features of the fair. The representations of both the dairy and beef breeds with but one exception, the Short-horn was stronger numerically than those of a year ago. With such large classes and at the first fair of the circuit, it was expected that weak spots would be frequently revealed and this year proved no exception to the rule.

Among the beef breeds none were out in such numbers nor possessed such uniform excellence as did the Herefords. It was, in fact, the largest exhibit of the breed ever made at any state fair and it was as superior in character as it was numerous. In the dairy section the Jersey enrolment was highest, with Guernseys a somewhat distant second. Certainly no better indication is needed to prove that Iowa is soon to take a high place among the dairy states of the Union than that which was tangibly presented day by day in that portion of the judging pavilion given over to the dairy breeds.

Comparisons of the numerical strength of the various breeds is afforded by the following tabulation of an enumeration of cattle shown at the fifty-sixth and fifty-seventh annual exhibitions of the Iowa State Board of Agriculture:

	1910	1911
Angus	102	99
Herefords	155	188
Polled Durhams	40	78

	1910	1911
Short-horns	183	179
Galloway	41	54
Red Polls	36	61
Holsteins	27	32
Ayrshires	14	33
Jerseys	57	91
Guernseys	53	66
Brown Swiss		46
Totals	703	927

SHORT-HORNS.

Short-horn competition has been keener at previous Iowa fairs than it was at this year's show, though some of the younger classes were fought out as closely as anyone would wish. More cattle have also been seen in the ring competition than were led in this year. The Iowa breeders made a good showing throughout with the added incentive of the Iowa special prizes. The judge, Mr. J. L. Reid, again came from the other side and did his work in a thoroughly businesslike manner. He likes to see the animals move and holds strongly to breed type as a requirement of his winners. Perhaps the feature of the show was the great showing of young Cumberland stuff from the Saunders herd at Manilla. One or two other breeders had Cumberland-bred animals that were among the leaders, but Saunders' herd was practically all of this blood. The aged

GRAND CHAMPION SHORT-HORN BULL
Iowa State Fair and Exposition, 1911

bull class showed some good individuals, but others were steery, and the lot of them rather lacking in uniformity. Sultan Mine, a roan of good type, was first, showing more symmetry of form than the second, and carrying a thick loin and fore rib. He later won both senior and grand championship. The two-year-old class brought McMillan's Hampton's King and Tomson's Imperial Victor face to face, with the former carrying a wealth of smooth flesh that put him over as the winner, and afterwards marking him as champion Iowa bull. It was a pretty close thing in the senior yearling bull class, Foxy Favorite finally going to the top. He is a sensational yearling in many respects and carries a full-fleshed hind quarter. Saunders' bull is well covered over the back. Count Avon is nicely finished and handles well. A good type also won in the younger yearlings, finally working his way into the junior championship. King Cumberland 2d is a toppy animal, carrying good width uniformly from his hips to a well-covered shoulder. Cash Tip has a very thick loin and is a blocky fellow in build. Scotch Cumberland took the lead in senior calves, having good growth combined with plenty of meat. He is nicely turned and handles well. A typey youngster took second for Harding over The Governor, which is not so well up in condition. The aged cows produced the grand champion female in Nonpareil 44th, a red, deep in body, thickly and evenly covered and a splendid Short-horn. The two-year-old heifers were led by a red, well covered, good fore rib and nice handling qualities. The white heifer that stood third has a good, thick loin Junior female champion came from the junior yearlings in Lady Cumberland, a well-turned roan that carries a good fore rib, a smooth shoulder and is deeply built in body. Senior heifer calf was won by Pleasant Mildred, a trim heifer which carries good fore rib, well sprung and thick, hind quarters fleshed deeply, and a smooth shoulder. Lavender Sultana 2d has lots of Short-horn type, long ribs and a deep flank. The herd exhibits made a pretty display with Harding's older exhibits carrying the balance of power in his favor over Saunders' younger things. The young herds were marked by a lot of first-class young females and the calf herds were marked by the same feature.

HEREFORDS.

The Herefords made one of the strongest shows of any breed that came in the arena. The uniformity of types exhibited and the keenness of the competition in a number of the classes were marked features. Mr. Robert Mousel, of Cambridge, Neb., was judge. Five exhibitors were Iowans who furnished plenty of competition for the outsiders, showing animals of excellent qualities. Makin Bros. started out by taking first in the aged bull class with Paragon 12th, a good handling bull that has a thick covering of flesh, lots of scale, but might carry his covering a little smoother. A little more upstanding bull took second for Van Natta. Gay Lad 6th, which led the two-year-old bulls, is made right, has a splendid Hereford head, a very strong and sturdy appearance and is covered deeply and evenly over back, loin and rib. He took a purple for senior champion over Paragon 12th and later was made grand champion bull of the Hereford show over Donald Lad 3d. Donald Lad 3d, winner here last year as senior calf, is a good handler and stood well in first among the senior yearlings. He is deep, thickly packed all the way to the shoulder and has a firm covering under a fairly good skin. Another Donald Lad (the 7th) led the junior yearlings without much trouble, having well-sprung rib, covered evenly and thickly. Byram Fairfax is a little less even, has not quite as much width of body, but carries good flesh. He is thick meated. Sensation is not so widely sprung in the fore rib, nor is he so well covered as Byram Fairfax. Van Nattas put another Donald Lad (the 9th) in the senior bull calf class where he was placed first. He is smoother and trimmer, heavier fleshed, deeper and much blockier than Harris' Repeated. It was commonly remarked in the ring that there was hardly a poor animal in the aged cow class. For uniform Hereford appearance, breed characteristics and high excellence it is doubtful if a better class was shown by the breed. A remarkably smooth cow in high condition, but still smooth and round, is Princess 16th, reminding one of the way old Princeps appeared when at his height. She stood well at the head. Later she showed against Cudahy's Scottish Lassie in the hardest show she had. She is a little fatter and was ahead of the two year old also in fullness at the thighs. The second prize in three-year-old cows was awarded Hazlett on Banza, a very sweet Hereford, but not fleshed up as highly as Lassie nor carrying what she has so smoothly. Scottish Lassie is remarkable forward, her ribs and neck blend into her shoulders with a smoothness seldom seen. The show between her and Princess for the champion female was very pretty. McCray took the blue in senior yearling heifers with Daisy Fairfax which carries a very deep covering of meat, though a little in rolls and bunches. Donald Lass is not so fat, but carries what she has very evenly. At the head in the junior yearling class were Harris' twin heifers that led last year as junior calves. A pretty pair they make, the first having a little more width right through, her hips covered a little more, and her hind quarters fleshed deeper to the hocks. As attractive a sight as could be witnessed during the cattle judging was the magnificent lineup of herds competing for the money in exhibitor's herd. Twelve herds, comprising sixty animals, were strung around the arena, being headed by O. Harris and Van Natta, both with uniform displays. The Iowa specials brought prizes to a number of high-class individuals and kept considerable interest aroused outside the arena among the visitors.

ABERDEEN ANGUS.

Aberdeen Angus exhibits were confined to Iowa breeders alone. The loyalty of Binnie, McHenry, Miller and Battles to the Iowa doddie show was again apparent this year. Escher & Ryan showed fat steers, but did not exhibit in the breeding classes. Dr. H. M. Brown, of Hillsboro, Ohio, placed the cattle in a very satisfactory manner. Quality Prince led the four aged bulls. He is deeper in body, seems to show more finish and carries himself better than the others. Two of the four two year olds shown were easily ahead of the others. Smoother finish, more body depth, both fore and aft, with better quarters, put Binnie's Kloman in the lead over Battles' St. Blaise, which won as a junior yearling in 1910. The senior yearling bulls went out with Protine, McHenry's bull, which was the winner in the 1910 show as a senior calf, in the lead. He has developed very thick thighs, has good handling qualities and has the usual doddie blockiness and body depth. Black Pridewood is wide and quite strong in the back, with good girth. Arney's Ebony of A. is another survival of last year's show, standing sixth. Binnie's Peter Pan of Alta, a thickly covered, wide and ruggedly made bull, secured the blue as a junior yearling over Black King of Rosemere, shown by Battles. Peter Pan has a lot of individuality and beat out a good bull, the pair standing just as they did at Des Moines a year ago as junior calves. A breedy animal won the senior calf ribbon over Proud Thickset that has two pretty good ends. He is a blocky fellow. Anderson & Sons stepped to the front with a very promising junior calf, a pretty good "all round" animal. A smaller number of aged females entered the ring than a year ago, when eight were shown, Barbara McHenry 24th bringing another first to the McHenry firm. She is roomy, is fairly well finished, trim for as capacious an animal and, with all, carries a deep rib and is near the ground. The two-year-old heifers brought out a tight class, with Barbara Woodson, first last year as a senior yearling, leading on splendid condition, thick covering and a beautiful Angus type. Pride of Alta 12th led the junior yearlings in 1910. Eileen of Alta and Entangle of Arndale were in the prize money a year ago as senior and junior yearlings, respectively. Blackbird McHenry 84th was placed up in the senior yearling heifers, as she was a senior calf. She is especially good in fore, rib and loin. Queen of Rosemere has low-down Angus type, but didn't appear to have the refinement in the head that Angus breeders like. She stood second to Blackbird McHenry as a senior calf. McHenry was again first in the junior yearling heifers on Blackcap McHenry 88th and in senior heifer calves with Pride McHenry 97th. Kloman won senior champion bull for Binnie and fought out the grand championship with McHenry Protine, that was the junior champion. Protine is a good handler, but Kloman carries a more prime finish a little more smoothly. Barbara Woodson was senior champion female and Blackcap McHenry 84th the junior champion. Miller's two year old took the purple away from the younger cow. Some interesting contests for those who were familiar with the sires and dams developed when their get were shown.

POLLED DURHAMS.

Polled Durhams have made great progress during recent years. With pure mulleys for sires and proper combinations with the best blood the Short-horn breed, it will not be long until Polled Durham in general excellence, beef type and feeding characteristics will be pushing the parent breed for honors. Even this year some of the better of the exhibits in this ring would not suffer by comparison with leaders among the Short-horns. Mr. J. H. Miller, of Peru, Ind., had a large, well-fitted herd entered and carried away a majority of the prizes. His winning aged bull is an excellent specimen, deeply covered, deep bodied bull with great girth, altogether a great individual. The second one is not so evenly covered, but thickly fleshed and with more finish than Walker Bros.' bull, which was third. Sultan's Creed is more heavily packed with meat, fleshed deeply in thigh, and has better top and bottom lines than Silver Secret, which is smoothly turned, handling better and being more symmetrical than Wilson & Sons' Royal Victor. A pair of white senior bull calves were first easily, the blue going to a shapely, meaty, little block great in quality. Two-year-old heifers were a good class, producing the senior and grand champion female in Lady Craven. Queenly won in the senior yearling heifer class, having good size and thickly meated. 4th Miami Sweetbrier, a trim heifer of good type, stood second over Wistful 2d. Not until the senior heifer calves were reached did Miller fail of a first place. Here Williams & Son were first with Serene 2d, a very smooth animal with good lines and quite good handling qualities. Walker Bros. were second with Aurora Belle. A good heifer stood fourth and excepting for a little weakness in the back could have gone on up. Walker Bros. took a first in the junior heifer calves. The champions, herds and display were all Miller. C. D. Bellows, of Maryville, Mo., made the awards.

GALLOWAYS.

Four herds of Galloways were shown and some high-class individuals brought out. This breed is heading much toward the Angus in essential beef characteristics, though still retaining the coat and peculiar poll. Only one herd was from Iowa, Mr. Hechtner showing up with a number of good ones to his credit. Isaac Lincoln, of South Dakota, is a new entry among showing breeders, having a number of animals of quite good Galloway breed character. Straub Bros. won the most firsts, but had a number of close contests. The winning aged bull is very good in quality and refinement of build, quite smooth, and carries a lot of flesh. Lincoln's Secretary of Crosslee has a lot of typical Galloway characteristics about him, but might carry his back a little straighter and is not such a smoothly turned animal as the two above him. Douglas of Meadowlawn was made senior champion, but had to give way in the grand championship for the junior champion. Straub Bros.' Viscount 2d won his way to the front as a yearling bull, keeping his lead all the way through to grand champion, which a meaty animal of such quality, blockiness and trimness surely deserves. Capitaline appeared from the ringside to have a fairly easy win over her competitors in the aged cow class. The second place went to Hechtner's Floss 2d of Meadowlawn over his stable mate, a very even animal. but not so wide or so blocky built as Floss, which was more after the type of the winner. Ladylike came from the lead of the two-year-old heifers to senior and later to grand championship. She is a typical Galloway and carries a lot of meat with little waste. Straub Bros. made a clean sweep of the herds and groups. Chas. Escher, Botna, Iowa, judge.

RED POLLS.

Herds from four different states and containing in all sixty or more well-fitted entries were assembled to provide a most excellent showing of the breed. The exhibit was regarded by Red Polled cattle supporters and admirers as one of the most representative of the breed that has been seen in recent years. In the absence of Prof. Andrew Boss, of the Minnesota Agricultural College, who had been booked to award the prizes, the position was most satisfactorily filled by his associate, W. F. Handschin. In picking his winners Mr. Handschin, while not losing sight of the beef type, sought for the animals showing marked milk-producing tendencies. He found the best embodiment of the dual-purpose idea in the aged bull, Logan; the yearling, Medler, and the heifers, Inez and Lady Dortha 2d. These it will be noted were chosen as the champions of the breed.

GUERNSEYS.

To prove that this Channel Island breed is steadily gaining in popularity among corn-belt farmers, it is only necessary to point to the growth of the Iowa State Fair Guernsey show. There was a time, and that but a few years ago, when a herd of these cattle shown on the western circuit would be regarded as an interesting curiosity by the rank and file of ringside visitors. He was indeed the exception who took the pains to inform himself as to their profit-producing qualities. In recent years, however, the showing of Guernseys has been one of the features of the live stock end of the Des Moines show and now the judging of the classes is always followed with great interest by large numbers from practically every section of the state. This new order of things has, of course, been brought about partially by certain economic conditions which have forced the dairy cow upon the attention of the farmers of the great corn belt and even more by the persistent efforts of a group of enthusiastic and equally resourceful supporters of the breed. These men in common with the great mass of their fellow farmers have realized that the average and for that matter the great bulk of the cows kept upon Iowa farms have been boarders or have produced at an absolute loss. The organization of the Iowa Dairy Cow Contest leads the way, not only in Iowa, but in several adjoining states as well, for some of the most effective campaigning for increased production and incidentally for the exploitation of the respective merits of the several breeds which has ever been done in this country. All breeds have profited by this publicity, but winning in the milk and butter fat competition the Guernseys have perhaps gained most in favor with the public. Five herds, in the aggregate containing some sixty odd head, with but a very few at all unsatisfactory, either in character or condition, made up the exhibit. Professor Grout, of the dairy division of the Minnesota Agricultural College, made the awards, and with but a few exceptions his decisions were well received. Among the aged bulls the third-prize winner in 1910, Glenwood's Combination 5th, was clearly entitled to the best the judge had to offer. When shown for the grand championship, however, he was worsted by a youngster from Alderney, Prince 2d, a son of one of the leading bulls on that island. Lord Mar of Manor, gotten by the grand champion of 1910, had been slated for the head of the two-year-old line-up, but the judge liked the bodying of the King of the May entry and so gave him the coveted position. A year ago the aged cow, Glencoe Bopeep, seldom failed to gain the recognition of the judges and always had the plaudits of the onlookers. This year she seems better than ever and barring any misfortune will give each and every contender a battle royal for premier honors of this season's circuit. A daughter of Lalla Boots of Chantilly 3d, the grand champion at Des Moines in 1910, was voted the best of the three-year-old matrons. Of all of the Guernsey classes none was more uniformly attractive than that of yearling heifers, which was headed by the very choicely bred and splendidly made Dora of Pinehurst. In the line below her stood representatives of some of the very best families of the breed.

JERSEYS.

Numerically considered, the Jersey showing was fully 60 per cent stronger than that seen at Des Moines in 1910 and its general excellence corresponded with this increase. Prof. H. H. Kildee, of the Iowa State College, did the judging and his work won general approval for its thoroughness. He was on the lookout for every indication of long distance milk producing capacity and in practically every class found a number of entries which closely correspond to his ideal. A noticeable feature of the breed showing was the predominance of the Island type, there being but few other animals shown. It took close calculating to give Beauvoir's King, the champion of the 1910 circuit, precedence over Combination Golden Prince. The old campaigner has lost a bit of the luster and dash which he had as he finished the season a year ago. An aggressive yearling from the same herd qualified for the championship contest by retiring a well-developed classmate, Eminent Cupid. In the aged cow, Mayflower's Glory, the judge found one of the gems of the show. She is a cow of unusual refinement and combines with this the best of milk-making equipment. Her right to the championship was warmly contested by tidy Burweb's Night Dream. This matronly three year old carried one of the most satisfactory udders seen in the several classes. The younger classes were similarly pleasing and abundant in promise.

BROWN SWISS.

Two Wisconsin exhibitors, assisted by additional entries from one of the Iowa herds, provided a Brown Swiss representation quite on par with that of any of the breeds. The Badger herds contained entries for each of the rings; unfortunately the Iowa cattle were grouped into a very few of the classes, which prevented them from competing and showing to the best advantage. Prof E. S. Estell, of Waterloo, Iowa, assistant to the state dairy expert, tied the ribbons and endeavored to consistently follow the standard set for the breed by its foremost followers and admirers. At one time Brown Swiss cattle were considered dual purpose in type, but in recent years the beef-producing qualities have been made entirely secondary to that of milk production, Stamina, size and sturdiness are always recognized as Brown Swiss excellencies and the breeders throughout the middle West, at least, are endeavoring to perpetuate these qualities in their herds. The showing of bulls was scarcely equal to the exhibit of females, some of the class being quite inferior to those seen on the circuits in recent years. Zell, a son of old Junker, won the aged class and later the senior and grand championships. He is appearing quite a bit thinner than when seen at the fairs a year ago, but with or without a deep covering of flesh he is a grand good bull and has proven a great producer, as well as a show-ring winner. The two year olds were not as good individually as were the aged sires. They were, however, appearing in good rig and made a very presentable showing. The bull calves were a very promising lot and certainly augur well for the future. Myone Baby had things entirely to her own liking among the aged cows. She is now a five year old and should be just in her prime. The judge found no sensations among the three year olds and in fact was impressed with the plainness of the entries. On the other hand he was faced by a group of very representative and promising two year olds. Among them he found Betty of Allynhurst, the best-equipped and qualified to stand at the head of the class. Taken altogether the yearlings were one of the best classes shown, with a daughter of the grand champion standing in first position.

HOLSTEINS.

There have been better, if not larger, exhibits of Holstein Friesian cattle at the Iowa State Fair than that which the Iowa breeders presented at Des Moines a week ago. There were but few outstanding entries and nearly all of these were old acquaintances. Ten-year-old Lady Ona Hijlaard reappeared in her working form and once more demonstrated her ability to win in the ring, as well as to produce winners and to measure up to some of the high standards of the breed on milk and butter production. A son of the old matron, Groveland Inka Hijlaard, again sustained the honor of the family by carrying away the senior and grand championship ribbons.

AYRSHIRES.

Two beautifully-fitted and equally well-shown herds of Ayrshires added quite materially to the attractiveness of the dairy cattle display. These were supplied by Adam Seitz, Waukesha, Wis., and J. F. Converse & Co., of Woodville, N. Y. Both herds had been carefully selected, as have all of the presentations of the breed made at middle western fairs in recent years. The judge, Prof. A. P. Grout, of St. Anthony Park, Minn., found much to commend in every class coming before him and in many instances was required to make the closest of discriminations. This was particularly true among the cows and older heifers which are about as near ideal in type as is often realized.

FAT CATTLE.

The Iowa show is too early to bring out the best in steers. Some good individuals were exhibited, but most of them would stand more fitting.

HORSES.

The horse show was marked by a splendid exhibit of Percherons and Belgians, with Clydes and Shires about up to their usual standard. A coming feature that will grow stronger each year is the show of draft geldings and mares. With the possibilities that Iowa has in this line, the state fair ought eventually to develop into one of the grandest shows of draft farm breds that can be found anywhere. The fancy six and four-horse teams do not occupy the principal places now. It is the single animal or pair that furnishes the sensations.

The breeders' futurities in Percherons, Belgians, Shires and Clydesdales attracted considerable attention among those who are interested in seeing better drafters bred here in our own country. The thoroughbred principle is applied, but refers to winnings before judges instead of other performance. The premiums were large and were certainly well worth trying for. Their total values, including cups and prizes offered for get of certain stallions, were: Percherons, $1.330; Clydesdales, $500; Shires, $720; Belgians, $715. The money was contributed by the Live Stock World, of Chicago, J. H. S. Johnstone, of that paper, being the originator of the scheme, the fair association and individual breeders. The show this fall was of foals dropped in 1910, entries having been closed on December 31, 1910. It is proposed to extend it to mare foals for next year if the showing this year has been considered successful.

Light horses made an unusually strong show this year, the standard breds, saddlers and ponies being especially good. The automobile and poor markets neither one caused much diminishing of the quality of the horse show.

Strong classes ruled in nearly all breeds and every judge found his work requiring the most careful and painstaking work. Jacks and mules made a strong attraction on Saturday and it was a pity more of the visitors could not have seen them in competition. The Shetland show was marred by a disagreement between the judge and some of the exhibitors, but there was nothing poor about the number or high excellence of stock brought out. These little fellows will always be popular and some beauties came before Mr. Stericker for awards.

PERCHERONS.

That the Percheron horse is popular in Iowa was again proven by the size and general excellence of the exhibit of the breed, the major portion of which was recruited from Iowa stables. Compared with the assemblages of the other draft breeds, the Percheron display was much the largest, indicating the relative esteem in which the breed is held by the farmers in the heart of the corn belt. Iowa breeders, moreover, are not depending altogether upon importations for their show animals—to a very large extent they are breeding them. Time and again they have demonstrated that as good draft horses can be raised in Iowa as in La Perche or, for that matter, in any other place in the world. Conditions here are near ideal for the production of drafters of size and quality. An equally important consideration is the fact that the market, for the surplus raised, is near at hand and not infrequently right upon the farms and even before the colts have reached maturity. The futurity stakes planned out by J. H. S. Johnstone have given added encouragement to the home breeders. If the plan is continued and enlarged it will very likely induce still more breeding of the sort that really counts. There perhaps is one well founded objection to the futurity proposition and that is that very promising colts may oftentimes be overdeveloped and thus be early retired to the realms of mediocrity. It will simply be up to the breeders to refrain from this overcrowding. The task of making the alignments fell to Dean W. L. Carlyle, of the Agricultural College at Moscow, Idaho. He did his work with characteristic care and thoroughness, giving every entry coming before him full consideration. There were far more uniform rings than that responding to the call for aged stallions. Of the sixteen, massive and deep-bodied Garage won the greatest favor with the judge and the ringside as well. This black was much the largest entry contending for the nomination. Maasdam & Wheeler's Gillot stood as he did a year ago, in second place, and fitted very comfortably into the position. Twelve three year olds, six less than were shown a year ago, were in the line-up, and here again Burgess had an entry which was making his initial appearance. Indelicat is an attractive black of pleasing type and well organized. Next to him stood Iviers, a horse of considerable dash and well gotten together. Among the twenty-five two year olds was Juridique, the champion of the show. He has a splendid middle, is well mounted and moves in a satisfactory fashion. Kallerman 2d, from the McMillan stables, was another colt that attracted attention by reason of his straight and strong going. With a heavier middle this youngster would have given the champion still greater difficulties in his fight for advancement. The array of yearlings, as might be expected, was noteworthy in number, quality and finish. Kerouly, an imported colt, stood between a remarkable son of Calypso and the position at the head of the line among the yearlings. By this performance Masterpiece qualified for the most coveted position in the futurity contest. Of the aged mares none pleased the judge as well as the compact, well-bodied and easy-moving La Belle. By her side stood Maasdam & Wheeler's popular entry, Amorita, and below her again Corsa's dapple gray, Favorite, which was shown by George Crouch a year ago. La Belle is an exceptionally smooth mare and of pronounced Percheron pattern. The nine three year olds were an assorted lot, but included among them were several nicely molded fillies. The two year olds were very acceptably headed by stylish and typey Jarnage. An Illinois breeder, J. A. Buswell, had a walk-away in the yearling class, showing three shapely and very well-developed colts. Maude Carnot, gotten by Carnot, the renowned champion of 1909, was studied with keen interest when she made her appearance in the ring. The daughter of Carnot out of a very ordinary mare would tend to prove that the old favorite will also be known as a great sire.

SHIRES.

The shires made a strong showing at Des Moines last week. The breed always displays big, drafty stock and this year brought out good stuff in both stallion and mare classes. An interesting feature is the steady improvement in the American-bred animals. The futurity competition may have helped a little this year in bringing out animals bred on this side, but whether it did or not the fact remains that some good ones were shown. Robt. Ogilvie placed the awards. Iowa and Illinois furnished all the exhibitors, among the Iowa men being numbered a few new to the ring, but showing some commendable individuals. In the aged stallion class the presence of Dan Patch was missed, but quite a good one took first for Hopley & Son in Scarcliffe President, a dark bay that steps out with a good stride and shows lots of quality. Crownover's Surveyor, a very drafty horse, with good middle, strongly coupled, but not so clean in bone as the first. Trumans had a pretty pair in the lead in the three-year-old-class. Royal Grey is a powerfully-made horse, of good quality and style, has plenty of substance, and in action carries himself splendidly. He has a long and quite true stride. It was a useful-looking animal that stood below the two grays, not quite of their style and appearance, but heavy and strongly muscled. A toppy black, clean cut in bone, but with lots of substance and a larger middle, won for Trumans in the two-year-old class over Hopley's Forest Duke which is on a little lighter order, but symmetrical in build. A big roan, capacious in body, breedy in appearance, strongly timbered and with a long, even stride, won first in the aged mare class for McCray. Second went to Huston on a big black with lots of weight. The class which aroused the most interest was the futurity class, and it brought out the largest number shown in any class. Paramount Rex won it for Crownover. He is a yearling, a dark bay, has lots of bone, a big middle and is a typical drafty, powerful sort that is so characteristic of the Shire breed. He is also a horse of much quality, which helped him to go ahead of Jack Tar, a larger horse, a month older, but not so fine in quality. Forest King was third, a little more upstanding and not so wide in build. These three had more substance than the others which stood lower down. On the third day of the judging Prof. W. J. Kennedy, of Ames, took up the work of placing the awards, Mr. Ogilvie having left the evening before.

BELGIANS.

Notwithstanding the fact that fifteen or more breeders participated, the showing of Belgians did not measure up to the high standards which the breeders and importers have been attempting to approximate in recent years. Jupiter, a massive roan, which by close balancing was crowded down to third place at the last International, readily came to the front among the nine aged stallions shown. He is a horse of remarkable size, well built from the ground up and is well supported by a set of strong-boned limbs. In the show for the championship, Jupiter gave his stable mate, Challenge, a very close rub, but the beautifully-balanced two year old seemed to have a little the better of the argument because of his quality and action. The aged mare contest was a local event entirely, none of the entries from outside the state qualifying for any of the prizes. Big and roomy Duivelinne kept a very broody mare, Madame 2d, from trying for the championship honors. The two were quite different in type, one being a mare of compact and yet massive pattern and the other far more broody. But two three year olds were out and neither was in any way outstanding, although Irene had the better qualifications. The assortment of two year olds was still less satisfactory, lacking throughout in quality and being quite devoid of any pretensions of typiness. The champion of the female contingent was selected from among the yearlings. This chestnut possesses unusual quality and is about as smoothly turned as could be desired. Showing against her was the six-year-old roan, but the aged mare lacked the freshness and high quality to win.

CLYDESDALES.

About the usual number of Clydesdales came in the ring and made about the same sort of a show that generally marks them. Robert Miller, of Stouffville, Ontario, Canada, made the awards. Softon took the lead among the aged stallions for David Roth, on good bone, a long and straight stride, and he is a very strongly-coupled animal, standing high in Clydesdale breed character. Rinaldo is a stylish second over Kincraig. McLays won first in the three year olds with Sanunda, a brown that has lots of draftiness about him, and good bone. Montrave Mercury, from the same stables, is somewhat lighter in the middle and does not move out as well as Sanunda. Miss Fanny won cleanly over Marjorie in the aged mare class. She is long in body, but strongly made and carries more weight than Marjorie, which is a very good Clyde type, having unusually good quality. She lacks a trifle in hind quarter, rump isn't so straight or so deeply muscled in quarter. Leitch's Sherada Lass is heavier, but hasn't the quality. The futurity here was a good show also, being won by McLays on Dictator, a roan that has lots of substance, is good at both ends and in the middle, and has a nicer set of legs than Baron Defiance, a black with large, well-formed feet and strong pasterns. Osco Pride was third, a smaller, but a very neat colt, lower set and a little heavier muscled than Leitch's Joseph Dockry that stood next. David Roth, Jos. Gissibl and Jas. Pedley were Iowa breeders who had good animals in the showing.

DRAFT GELDINGS AND MARES.

The draft geldings and mares made a splendid showing, attracting as great interest among the visitors to the arena as any other draft class. This is a class in which the farmers and dealers are vitally interested and the improvement over exhibits made in previous years was quite marked. The most important feature was the large number of animals shown by men who use them for farm work. Collar wear was not missing from exhibits shown at the halter and those shown in harness looked capable of any work. The judge was Robt. Ogilvie, of Chicago, and he had a number of good ones to pass upon. The fall colt shows that are spreading rapidly over the state have been responsible for a number of the exhibits. Colts that have won in the local autumn fall shows and maintained their lead through the yearling and older competition were here and made farmers in many localities where such shows are not known realize that great possibilities are open to those who wish to take advantage of the educational features of such exhibitors. The Belgian grades and Shire grades were the draftiest shown, though a few Percheron grades showed as much of this character as any. When Mr. Ogilvie left, Professor Kennedy finished the judging.

THE FUTURITIES.

Much interest was taken in the showing of yearling draft stallions brought out at Des Moines in response to the call of the organizers of the National Draft Horse Breeders' Futurities. The idea of adapting the principle of the futurity stakes of the race horse world to the exhibition of draft horses originated with J. H. S. Johnstone, who is recognized as one of America's best known agricultural writers and live stock authorities. In this work he has been ably assisted by A. C. Halliwell, of the Live Stock World, many of the prominent breeders, the various breeders' associations and the Iowa State Board of Agriculture. "For many years," Mr. Johnstone says in explanation of his plan, "we have believed that if it were possible to win championships in state fairs and expositions with American-bred draft mares, it was equally possible to line up in the show ring a lot of young draft stallions that might bid defiance to the imported article. Surveying the entire horse breeding field it appeared to the management that the principle of the 'futurity stakes' might well be invoked to induce breeders to fit and exhibit their young stallions so as to be able to play up sticks with the products of European stables and paddocks." In all the futurity premium fund, including cash and the cash value of cups, medals and ribbons amounted to nearly $3,500, quite the largest sum ever offered for an exhibit of draft yearlings. Fifty-three representatives of the four breeds were shown and of this number nearly one-half were in the Percheron class. Not only was this breed in greater evidence in respect to the number of entries, but the exhibit quite surpassed the others in respect to quality and general excellence. Professor Carlyle was assisted in judging the Percheron yearlings by John Truman, of Bushnell, Ill., and Robert G. Ogilvie, of Chicago. The Belgians were placed by Professor Kennedy and A. Latimer Wilson, of Creston, Iowa.

SWINE

In magnitude of numbers the swine division of the Iowa State Fair stands head and shoulders above all other live stock shows or expositions. In this respect it is representative of the real importance of the pork raising industry in that section of the country tributary to the Iowa State Fair. The occasion is, in fact, rapidly taking on the character of the

English shows, where the object of getting the buyer and seller together is given greater consideration than the competition for prizes. Twice only in the history of the Iowa State Fair has the total number of swine in the pens exceeded that of the present year. In all there were 2,787 hogs. The breed divisions are as follows: Duroc Jerseys, 986; Poland Chinas, 702; Chester Whites, 586; Hampshires, 303; Berkshires, 120; Yorkshires, 68; Tamworths, 22.

Of course, a very great majority of the animals brought to the fair were brought for sale purposes and did not enter into the competitions of the show ring. This situation no doubt, in a measure, accounts for the fact that the swine exhibits of the Iowa State Fair lack the highly finished hogs to a greater degree than the other greater state fairs. Most of those who compete belong to the class which may be called smaller breeders, who have not given the science of breeding extensive study and observation and whose skill in fitting and finishing is limited The results, while, of course, not tending toward a reduction of actual merits, do in fact lessen the attractiveness of the show. It is an accepted principle in other divisions of live stock shows that the animal which more nearly approaches that form most in demand by the market and at marketing time is the better one. It seems that swine breeders at the Iowa show are overlooking this fact and putting into their competitions a share of animals which, while possibly carrying all of the most highly appreciated breed characteristics, are yet not brought to that perfection which demonstrates their possibility as pork producers.

DUROC JERSEYS.

With 986 animals in the pens the Duroc Jersey breed exceeded all others in numbers. It is an unusual circumstance that with eighty herds represented all but twelve of them were Iowa breeders. There were many large and excellent classes and on the whole the showing was considered one including perhaps as much genuine Duroc Jersey merit as has been gotten together. There was a notable absence in the number of professional showmen. A very large majority of the animals exhibited came from herds which do not make it a point to round up the fair circuit. This situation is responsible for the fact that there was but very little high fitting. Most of the animals were driven into the ring in the form which might be termed breeding condition. There was not a single animal in the prize-winning lot which might have been considered as sensational. There were, however, many which were most excellent representatives of actual Duroc Jersey type and profitable character. The awards were by Mr. R. J. Harding, of Macedonia, Iowa.

POLAND CHINAS.

This was more nearly an Iowa show than has ever transpired in the history of the Iowa State Fair. Sixty herds were represented and only five of them were outsiders. The contentions which have been so prominent between factions in Iowa have no doubt been responsible for this situation. Several outside herds which have hitherto been prominent winners have felt that they would not be justified in bringing their herds where the dominant opinions might be expected to influence the decisions against them. There was less fitting than usual, a great number of breeders preferring to show animals possessing size and making little or no attempt to put them into the accepted show-yard form. The awards were placed by Mr. J. M. Stewart, of Ainsworth, Iowa.

CHESTER WHITES.

The exhibit of Chester Whites was perhaps the leading one of the entire show with respect to average high quality, finish and near approach to breed type. The awards were made by Mr. Wilson Rowe, of Ames, Iowa.

Breeders' Gazette, Chicago.

Neither drouth nor flood avails to dim the glory of the Iowa State Fair. Some former years have seemingly sought to drown it out, and now a scorching summer's sun has scattered its discouragement in some sections of the state, but the fair rises to yet greater heights, triumphant over all. It may briefly be summarized as record-making in nearly all respects.

Cornbelt farming has encountered one of its rare vicissitudes, and Iowa has suffered, but no evidence of that fact could be found either in the exhibits or the attendance. From Des Moines southwest production has been notably lessened from almost unprecedented drouth, but other sections of the state will close the year's accounting with records of production that range all the way from a little less than the average to a great deal more than the average. No note of discouragement was sounded. The cornbelt farmer is forehanded. He is not dependent on the returns of a single harvest, as crib and bin and bank hold accumulations of former favorable seasons.

Fairer weather never forwarded the progress of an agricultural event. Des Moines is in the center of a sun-blistered spot, and the withered grass on the fair grounds testified sadly to that fact, but the main streets had been oiled so that the dust was well laid. The coolness which overspread the Northwest covered Iowa with its edge, showing traces of frost in the earlier part of the week, and affording almost an autumnal crisp to the air. More agreeable temperature for visitors, attendants and stock could not be imagined. This condition was reflected at the turnstiles. The week was yet young when a record-breaking total was registered, Tuesday's attendance surpassing any gathering on the grounds. The total attendance far exceeded any fair week in the fifty-seven years' history of this institution.

This record accentuates the need of new clothes for this fair. Much of its accommodations is outgrown, whether designed for exhibits or visitors. Cattle and sheep overflowed into tents and horses into temporary quarters. Neither the Coliseum nor the new grandstand proved adequate to the demands. The plan of the rehabilitated grounds has been drawn by landscape gardeners, the new suit of clothes has been ordered. The legislature allowed $85,000 this year "on account." Six acres of land imperatively needed to accommodate the machinery department were taken out of adjoining city lots, at a cost of $12,000. No less than $8,000 will be spent in much needed sanitary toilet improvements, and $65,000 was set aside for the new Machinery Hall. The part completed, which is a trifle more than half that covered in the plans, cost $75,000. It stretches its 270 by 570 feet in very attractive architectural fashion, symbolizing in its brick and steel construction the permanency of the industry. It is altogether a comfort to exhibitors and a delight to visitors.

New horse and cattle barns, a new sheep department, a new and materially larger Coliseum are prospective parts of the equipment which has been outlined on the plans. The amphitheatre at the track is sadly in need of its contemplated extension. Day after day it was inadequate to the demands. Progress has been made toward fitting these grounds with buildings required by the demands of exhibitors and attendants, but it has been slow. In the face of the necessities, the legislative appropriation of $85,000 seems pitiably small. Building is dependent on appropriations and profits; the latter item should be larger this year than ever before.

The need of machinery was never more apparent in the history of American agriculture, and inventive genius and manufacturing enterprise are striving to meet it. The farmer who fails to study the implement exhibit at the fairs assuredly loses much of the educational benefit to be derived from such exhibitions. Iowa has long commanded an extensive display of farm implements. The exhibit is now divided, so that its real mammoth proportions are not readily apparent, but the new plan contemplates the concentration of all such exhibits under and near by the new Machinery Hall. The conspicuous feature of this year's exhibit was the silo. Makers have been far behind with orders all season, and the intense interest manifested by farmers in the silos and filling machinery indicates a tidal wave of silo construction. The heavy machinery was well represented. Farm tractors of all kinds were in operation, and the plowing trials with tractors and gangs were well attended. A notable feature was the number of electric and gas house-lighting systems. The auto was much in evidence, in special exhibits and actual use. It was officially estimated that on one day 2,000 motor cars entered the grounds. Farmers drove in from fifty miles away in autos, and they were lined up all over the ground—in the stock departments, about the machinery and up on the hill where 3,000 people were in camp for the week.

Several of the prominent manufacturers kept open house in large tents or in their permanent exhibit buildings, and all these display places were constantly thronged. The keenest interest was manifested in every device that will lessen human and equine labor, and reduce the cost of production.

Progress has been made toward redeeming the fine agricultural building from commercial exhibits, but much yet remains to be done. The individual farm exhibits are growing, and assuredly afford a fine example of enterprise. A large proportion of this valuable space is filled with concessions, ranging from cheap jewelry to tanned hides. No state is better able to present a convincing exhibit of its production, if it were only brought out and grouped in this building.

The Iowa State College made an attractive display of the work in a number of its departments. It was not burdened with details, but set forth striking features. The public school exhibit was significant of the modern trend toward the education of the hand. The Des Moines schools made astonishing display of handcraft, and some of the country schools claimed compliment for the character of the work done in the manual training and domestic departments. Students' judging contests in corn and stock enlivened the week. Such fairs afford unexcelled opportunities for this work.

The attractions, barring a lot of cheap side shows, were of an excellent order. The racing was fair, and between the heats specialty features were introduced that afforded entertainment. Chief among them were the trials of sheep dogs, a new feature. James Scott, Thorniehill, Ancrim, Roxburyshire, Scotland, and William Robertson, Balakin, Pirn Mill, Arren, brought over six Border Collies, the party being in charge of John Johnstone, Glasgow. Engagements were made at Des Moines, Hamline, Sioux Falls and Sioux City. This is a feature which has been long wanting from American fairs, and it is to be hoped that the interest manifested by the public in these trials will result in the establishment of competitions of this character at leading fairs. The dogs worked with rare intelligence, revealing marked instinct for driving and an education that reflected much credit on their handlers.

Fireworks at night packed the grandstand during the week, and the hippodrome exhibitions at the Coliseum also drew full houses. It has been definitely determined that fair-goers will patronize night exhibitions with profit to the management, thus adding much-needed revenues.

Numerically the stock exhibit totaled high, although revealing weak spots both in numbers and character. Exhibitors have been loyal to this fair, and its commanding position at the opening of the circuit has aided in bringing out notable displays. The unapproached accommodations for swine and the new cattle and horse barns indicated the ambitions of the management, and exhibitors will hail with pleasure all progress in this line. The setting for the sheep and dairy cattle is rather incongruous for such a fair.

THE BEEF CATTLE DIVISION.

THE SHORTHORNS.

It was largely an Iowa show, although a few exhibitors registered from other states. The conflict in dates with Ohio kept several strong circuit-following herds away from Des Moines. It would scarcely be expected that the absence of these herds failed to lower the average of excellence. It certainly did. At the tops of the classes appeared animals of high degree, but frequently the descent in character was quite pronounced. Numbers were impressive, and many cattle would answer admirably the requirements of local shows, although failing measurably to meet the standard which has long been set in this arena. Enough top cattle appeared to stir enthusiasm, and in the younger classes the average of merit was appreciably higher than in the older.

Another satisfactory experience with a foreign judge is recorded. J. L. Reid, Crombly Bank, Ellon, Aberdeenshire, came over to assign positions among the Shorthorns at Iowa and at the Toronto Exposition, and his task here was performed in workmanlike fashion, with always a reason to those who asked. He indulged in no unnecessary handling, but was a little particular about smoothness at the tail head. The competition was so close in several instances as to permit variety of view but exhibitors appreciated the services of an experienced, successful and unprejudiced breeder from overseas.

Rarely is such improvement registered as Sulton Mine reveals. Whatever awaits this champion Shorthorn bull he is to be pronounced one of the most satisfactory from all view points that has been developed in years. He is fit to the minute, and the type and smoothness of covering are highly gratifying. He shone somewhat by contrast in his company of aged bulls, but he will radiate a luster all his own in any company. Hopeful Knight is a red of splendid beefy stamp and smooth. Thick and massive is the roan Golden Grove. Monarch Viceroy has more scale but less smoothness than the one set above him. The character of the class was on the average disappointing, as it tailed down rather sharply. The two-year-olds were very creditable, and the roan Hampton's King led them—a bull of presence, growthy character and deep body smoothly covered. He finally achieved the Iowa championship against one of the sensational younger bulls. Much masculine character is manifest in Imperial Victor, a red of considerable bulk and levelness. A stubborn contest developed among the senior yearlings which included a number of good youngsters. The red Foxy's Favorite seemed to win by reason of his undeniably massive middle. In either end he scarcely measured up to the standard set by the roan Royal Cumberland, which has size and square fashioning to his credit, being lined out well. Much burden of favor ran toward the roan Count Avon for chief honors here. He is not burdened with cover, and for lack of it he was left down third, but for type and character he loomed strikingly in the eye.

Some splendid youngsters did brave battle among the junior yearlings, led by a sensational sort. They say that King Cumberland 2d is a better bull than his famous champion full brother was at the same age. He is much the same stamp, only a little less compact perhaps, and in size, sappiness and smoothness he does not leave much to be desired. He was junior champion. Cash Tip is an unusually wide-topped roan, with a great hind end and deep flanks. Cumberland's Best carries himself more impressively from a broadside view. He is white and level and taking. Fair Knight 2d is a splendid blocky roan. From the score of senior bulls, which mounted in merit to a distinctly high plane. a short leet of ten was made from which Scotch Cumberland was drawn—a real out-of-the-ordinary kind. He combines substance, style and finish in rare degree. Correct Fashion was accurately named, and Mr. Harding could have taken a higher price for this youngster than any calf he ever raised, but he encountered a stumbling block in this company. The Cumberlands kept on coming all through the show. True Cumberland, carrying a white coat and a very mellow hide stretched over an ample frame, led the junior calves.

Some of the aged matrons had gone by and some had yet to come. The only one that had arrived and stayed there was the big red Nonpareil 44th, a cow of good fashion and smooth forward of the hips. The two-year-olds were much more creditable and were headed by a beautiful red heifer, quite agreeable to the eye in contour and quality, and not inaptly named Daisy Queen. Flesh and finish characterize the roan Roan Fashion. Enough good ones appeared among the senior yearlings to make it interesting. Irreconcilable views were held concerning the red Ruberta's Choice and the roan Scottish Cumberland. The judge recorded his ideas and in the spread of top and massive middle of the red heifer found support for his preference, but the width, evenness and smoothness of the roan claimed a lot of following. Much of excellence was wrapped up in Marshall's Missie. The short leet of junior yearlings presented an altogether charming company, and Lady Cumberland, admirable in type, character and condition, wended her way to the top. The rest were contentious. Mildred Snowball, the white, and Bonnie Cumberland 2d helped sustain admirably the glories of Cumberland's Last as a sire, but Queen of Hearts was drawn in third, although it seemed somewhat difficult to prevent the list running one, two, three to the Cumberlands. It was a rare display. The senior heifer calves were about all that would be expected, and the juniors fell not behind. Among the babies the Cumberlands again scored, Scottish Cumberland 2d ranking among the best of the milk-fat specimens in a long time. Clipper Sultana is not so forward but she is accurately modeled and finished.

THE HEREFORDS.

The "white-faces" easily carried the honors of the beef cattle section. In figures they were first and also quite palpably in the average strength of the rings. At times the Hereford exhibit has fluctuated in numbers, but rarely do exhibitors of this breed fall into the error of entering the show-ring unprepared. A lot of them made ready for the fray this season. Six herds from Iowa were reinforced by three from Missouri, two from Nebraska, and three from Indiana. A decided majority of these exhibitors make the rounds, inviting the hottest competition, and they were quite ready for the opening fray. It thus came about that a sensational presentation of the breed was made in this arena, claiming laurels as to strength of cattle that were quite cheerfully conceded by the sportsmanlike adherents of other breeds. It was a show wholly in keeping with the glorious traditions of the breed, satisfying alike to exhibitors and the critical public.

It was judged by Robert Mousel, Cambridge, Neb., who approached the unenviable task with ample experience in the exhibitor's side of the game. His prize list represents the judgment which has commanded respect in many a show yard from other judges, and an intelligent handling of the knotty problems.

It is difficult to discern any appreciable let-up in the form of the perennial Prime Lad 9th, but this dumpling-type bull, hero of years of conflict, fell back before Paragon 12th, a low-set bull of fine character, with heavy quarters, well-filled thighs, and a wealth of cover on the back, but scarcely so neat of hips as Prime Lad 9th. Fairfax 13th is widely spread of top, with unusual thickness of loins, and a rib that lets well down. There were ten bulls in this company. The two-year-olds were an attractive lot, headed by a striking example of Hereford precocity. Gay Lad 6th carries more scale than is customary, but not at the abatement of form or quality. He is an outstanding bull in almost any company, and won his way to the championship. He is swelled out evenly and lacks nothing in balance. Fairfax 16th is somewhat egglike in shape, close-set to the ground and full of meat. Beau Sturgess 2d attracts attention by reason of his heavy quarters. The senior yearlings numbered five and all were commendable. Donald Lad 3d walked gaily to the head, a wide-spread deep-flanked bull. Corrector Fairfax wanted some of the depth of the blue ribbon bull, but is rounded off with rare smoothness over his top. Financier 2d displays choice character and carries his lines evenly.

The junior yearlings presented several kinds, some up and some down, but good ones were plenty. The Donald Lads had hit a winning stride in the preceding class and maintained it here, Donald Lad 7th claiming chief honors. He is a splendid sample of youthful development, carrying scale and thickness. He fronts you well and is widely arched in rib. Baron Fairfax is not so neat as to tail, but is evenly turned otherwise. Sensation is a very flashy bull of prime feed-lot type. Nearly a score of senior bull calves presented material of much promise. Again the Donald Lads scored, this time with the bull numbered the 9th. He is a "bully" bull, of pronounced masculinity, and much of a block in his build. Repeated is a trifle farther off the ground than the Indiana winner, but is distinctly in the top-notch class, with level back, well fleshed loins, neat hips and nice character. The babies were an even lot of splendid promise.

Among the matrons appeared Princess 16th, which exemplifies the smoothness and mellowness of the Princeps blood in its highest estate. She is a very handsome young cow, fit and not overfit, and full of bloom. She had senior champion honors later. The twelve entries were notable in strength. Lady Fairfax 4th, with her hogshead-like middle, was the runner-up for prime honors, followed by her full-sister a year younger, Lady Fairfax 9th, off much the same piece. It is rare that two such sisters lend strength to a class. The two-year-olds stretched out almost to a score and were altogether up to the grade long since established by heifers of this age among the "white-faces." To this company we usually look for the most distinct bloom and impressive charm. Scottish Lassie, the grand champion of last year, holds her own superbly. Banza, which has been much in the public eye at western shows, made bold claims to preference over the reigning queen of 1910 and some there were who conceded the claims. What more need be said? The breed is surely rich in treasures. The senior yearlings were also worthy of unstinted praise and found that leader in Daisy Fairfax, being fully-fronted with abbreviated underpinning, a smooth back and thick loin. Donald Lass 4th was another lassie of sweet countenance, but scarcely so well filled behind the shoulders and at the tail as the winner. Belle Fairfax is low set and barrel-like in rotundity. A long-drawn-out battle among the charming juniors brought the sensational rating that placed twin sisters at the top. Harris' Princess 185th was set first, followed by Harris' Princess 184th. It is a remarkably buxom mellow pair. The senior calves and the juniors were up to expectation, and these lots are always of exceptional excellence. There is show material in plenty in the market among them.

THE ABERDEEN-ANGUS.

It was an all-Iowa exhibit of the "doddies." In no state has the breed been developed to greater excellence, and no section has contributed so largely to the successful show yard history of the breed of late years. On this occasion a strict regard for accuracy compels the comment that the exhibit scarcely attained old-time standards, either in numbers or individual character. Probably most of the cattle will be in more impressive form later in the season. Only one herd, that of Mr. McHenry, seemed to have been developed to prime show yard condition thus early. Dr. H. M. Brown, Hillsboro, O., found the best of the cattle in satisfactory fashion.

Quality Prince has graduated into a winning three-year-old still bearing the stamp that gave him his name. He is handsome and meaty. The four bulls were of fleshy character, but the winner deserved his position. Thickset Blackbird is of good type and flesh, but a little higher up than the winner. The neat and evenly-finished Kloman was made the pick of the two-year-olds and eventually achieved chief honors of the bulls. He is a bull of pleasing character and form. Protine, the top of the senior yearlings, quite outclassed his company in scale and flesh. He carries much thickness of loin. The junior Peter Pan of Alta is a shapely, blocky youngster. The calves were not numerous but of fair quality.

Barbara McHenry 24th made the going easy for herself among the cows, by reason of her thickness and smoothness, and the rather ordinary character of her competitors. The two-year-olds brought the ready comment of "the best of the show," as the nine of them suggested some of the old-time glories of the breed. Barbara Woodson made her way clear through to crowning female honors, starting with her triumph among the heifers. She has a lot of genuine "doddie" character, presenting an unusual depth of body and a smooth contour. Pride of Alta 12th is well grown and carries her form with fidelity to type. Among the senior yearlings Blackcap McHenry 84th received due acknowledgment of her commanding claims. Queen of Rosemere is fairly well turned, but a trifle "rolly." The juniors were hardly outdone by the seniors in attractive character, as nearly all of them made just claim to compliment. The younger classes were also of a character that compensated for considerable of the disappointment that had attended the exhibition of the bulls.

GALLOWAYS.

The merits of the Galloways were never so ably exploited before Iowa farmers. The exhibit was moderate in numbers but carried a contingent of superlative cattle sufficient to fill the prize list. There was the thickest and smoothest kind of beef displayed beneath soft robes of Galloway shagginess, leaving no chance to doubt the money-making capacity of this hardy Scottish race. A really difficult task confronted Chas. Escher, Jr., Botna, Ia., in making the awards, but he did an artistic job of ribbon tying.

Among the five aged bulls the principal fight developed between Douglas of Meadowlawn and Evaline's Sampson. The former is a very low-set bull, compact, meaty and smooth in every part although looking scarcely so big or so deep as his mate, which got second. An easy winner among the two-year-olds was Marquis, a bull of excellent type, very low-set and thick. The first-prize yearling bull Viscount 2d, also from the Straub Bros. herd, embodies the stamp of vigor and masculine character with beautifully molded wide level top and a smooth even covering of flesh. He made an acceptable grand champion. Each class of bull calves numbered three rugged youngsters, and each lot was led by a very thick-fleshed smooth short-legged one. The second-prize senior calf Mack Croff is rather small but very neatly made and stamped with quality.

Seven aged cows made lively competition. Capitaline is the widest of the lot, close to the ground, sweet of front and smooth as an egg. Floss 2d of Meadowlawn is a trifle stronger in top line but not so smooth at the hips. Florence is a little further from the ground but deep-bodied and level. Two-year-old heifers numbered eight, with Ladylike standing conspicuous for her great width of chest and top, sweet expressive countenance, deeply covered, level back and general stamp of quality. The judge considered her easily the best female shown and awarded her the grand championship, which is no new honor for her. The best of the senior and junior yearling heifers are evenly matched and the same is true of both classes of heifer calves. The youngsters from the Straub Bros. and the Hechtner herds are especially pleasing in type, both as to breed and block standards, and they are in the pink of condition.

POLLED DURHAMS.

This year marked a high score for Polled Durham achievements in Iowa. Such uniformly high character and fidelity to approved type are rare. Reds and roans prevailed, with a few whites. Some of the cattle were not in very high flesh but every animal shown bore the mark of good breeding. The female classes were especially strong and furnished plenty of work for Chas. Bellows, Maryville, Mo., in sifting out the winners. His work for the most part pleased the ringside and satisfied exhibitors.

The Confessor set a good standard for the bulls, with his broad low masculine type, thick smooth flesh, and superior handling. He carries his bloom remarkably well, and no one doubted his right to the purple ribbon as well as the blue. His herd mate standing second is larger but not so smoothly nor so fully packed with beef. Secret Victor was the only two-year-old bull shown, but he would have stood well up among other real good ones. Two roans led the next class and opinion was divided as to their relative merits. The winner is young but growthy and very smooth and mellow although less thickly covered than the older bull, which was especially thick in back and loin. Senior bull calves numbered eleven led by a very neat white one very smoothly turned and growthy but not so blocky as some of the older ones in the class. The junior calves were also a fine lot.

A very sweet matronly sort is the red Queen Miami 5th which won the blue for aged cows. She is very level and smoother than the thicker fleshed, very low-set roan Wanderer's Violet. A careful balancing of points was required between the two candidates for chief honors among the two-year-olds, but Lady Craven, subsequently given the grand championship, is more beautiful of front and very thick in the loin. A level smooth good-fronted roan led the senior yearlings and the roan at the head of the next class is of particularly beautiful type. The calves are a splendid lot.

RED POLLS.

Red Polls made the best show of the breed ever seen at this fair. Numbers were not lacking and the combination of beef and milking capacity was conspicuous. One of the most striking features of the exhibit was the remarkable uniformity of type displayed all through. The spread of body and length of rib necessary for supplying a large active udder also carried a moderately thick covering of smooth flesh in the bulls, dry cows and youngsters. Prof. W. F. Handschin, Urbana, Ill., tied the ribbons. He was obviously puzzled at times, as were many of the spectators to discriminate justly between the beef and dairy indications of the cattle. Most of his work was consistently done.

The show started out strongly with six grand aged bulls. The winner Logan is a very low-set large-chested bull, level, smooth and of medium size. The next three followed quite faithfully after the same general pattern. Logan kept on winning until he got two purple ribbons. A very deep middle and short legs distinguished the two-year-old Reo, although Homer is perhaps a bit smoother. The yearling Meddler is of beautiful type, smoothly turned and full of quality. Both of the bull calf classes were large and required much study in their rating.

There were nine aged cows of such uniform stamp as seldom is displayed. The good Inez, seven years old, is in excellent condition. Her stylish bearing, sweet head, level top, deep middle, wide hindquarters and capacious glove-like udder made her an easy winner. The next three are each over seven years old, and each exhibits unmistakable beef and dairy characteristics. The heifers and calves made excellent classes, in which quality, depth of middle and extent of udder were given careful consideration by the judge, although he insisted on meat enough to show good feeding capacity. The grand champion heifer was picked from the junior yearlings.

THE FAT STEERS.

The three principal beef breeds were represented by pure-bred and grade steers of a uniformly high average quality, although no sensational ones were uncovered. Chas. Bellows judged the Shorthorns, Robert Mousel the Herefords and E. T. Davis the Angus, and the three constituted a committee to award the premier honors. The real contest for the grand championship among the single steers narrowed down to the two-year-old red and white Shorthorn Benefactor, brought out in excellent bloom by Tomson Bros., and the grade Angus two-year-old King of Selby, shown by Escher & Ryan. Both are a little on the leg, but the Shorthorn is wider and more evenly and thickly covered with flesh, although handling scarcely so firm as the black. So close was the competition that some good judges at the ringside considered other steers in the show fully as good as either of these, but the decision was well received. The smoothness and uniformity of the Hereford steers won in the group championship.

THE DAIRY CATTLE.

JERSEYS.

The dainty breed of butter-makers was splendidly represented by cattle of rich breeding and acceptable type. The increased strength of this breed year by year bespeaks the favor with which the cattle are regarded by cornbelt dairymen. Minnesota and Iowa furnished most of the entries, with Nebraska and Wisconsin each represented by a herd. A notably uniform high character and fidelity to the show-ring standard of excellence stamped the exhibit all through. Prof. H. H. Kildee, Ames Ia., made the rating with much care and intelligence and accomplished a most difficult task in a very cerditable manner.

A sample of the keen rivalry which distinguished the show was furnished in the first class when three excellent bulls lined up before the judge. Beauvoire's King is a dark bull, rather larger than the other two, alert, with real dairy conformation, capacity for feed, good quality and large development of rudimentaries. Combination Golden Prince is a deep-bodied bull with rather more refinement of type. The third in line carried too much fat to show at his best. A very nervous aggressive bull, with strong masculine front, great style, strong back, big middle and silky quality came to the front among the half-dozen two-year-olds, and eventually he won the senior championship. The five yearling bulls furnished the grand champion in Ibsen's Glory, a bull of great length of rib, large well placed rudimentaries, fine quality, and withal a genuine aristocrat. The second prize went to a bull of much the same general pattern. The bull calves in both classes were very promising and gave the judge considerable work in balancing their claims for preference.

Eleven aged cows included a number of outstanding merit but no trash. Mayflower's Glory walked to the front daintily, her great udder swinging high behind and far to the front. When she returned after milking, its flexible character and regular form again pleased the judge. She is not a large cow but is shaped for maximum production, with her long wide pelvis and great abdominal capacity suited to the handling of extensive nutritive processes. In beauty and refinement of type she was equally worthy, and finally she was crowned the best female of the breed. A three-year-old of balanced show type from face to udder stood at the top in her class, followed by a more upstanding one scarcely so well shaped in fore udder. The third cow shows great producing ability but is of more delicate stamp than those above her. The two-year-olds, twelve in number, were distinguished by their good milk-making equipment. A comparatively easy victory was scored by Harbinger's Lass, a heifer of strong constitution, level back, long wide rump and excellent udder, with a beautiful feminine countenance. Blanco's Pride is smaller but very attracively made, and the third in line looks scarcely so large of middle although having a good udder. The seventeen yearling heifers, nearly all of them in mlik, gave a convincing demonstration of the precocity and utility of Jersey females. The winner is a neat shapely heifer, well furnished in the essentials for milk. Another having a beautiful head, great chest, and a general stamp of breediness stood second. The third heifer is deeper and more level. The best of the heifers was located in the calf class, from which the junior champion Warder's Fair One was picked. She is a quailty calf in every respect, with a very deep middle and remarkable mammary development both fore and aft.

HOLSTEIN-FRIESIANS.

Holsteins fell considerably short of the numbers of former years, and were the weakest feature of the section in this particular, but some very excellent bulls and females were brought out. Yearlings and calves were most numerous. Prof. H. H. Kildee, Ames, Ia., made the awards in a painstaking and satisfactory manner, sticking to the utility type but seeking refinement and character with it.

Only one aged bull was shown, but he fills the eye acceptably as a type. Rather more flesh is carried by the two-year-old Buffalo Skylark Ames, but his quality is remarkable. The most competition among the bulls was in the class of calves where the honor finally went to a very growthy level bold fellow of pronounced dairy type. The two-year-old winner is sire of this calf. The chief honors for bulls finally went to the aged bull.

The grand champion female came to prominence in the first class of cows where immense flexible udder and great capacity for vital organs attracted immediate attention. The winning two-year-old heifer is a very growthy one although showing less development of udder than her rival. A very forward heifer in milk headed the yearling class. She possesses more quality and refinement than the one coming next, and both are considerably larger than the one coming third. The heifer calves made a pretty display of dairy possibilities, first going to a very growthy vigorous youngster with good mammary development for her age.

GUERNSEYS.

Never has the exhibit of Guernseys at this fair been of such excellence. Not only were the cattle of the practical dairy pattern but there was an attractive uniformity of type, a levelness of backs and rump, and a general touch of quality that must have added immeasurably to the popular estimate of the breed for farm or show-ring. Three herds from Iowa upheld the reputation of the state for superior cattle of this breed, but they found stiff competition from the Wisconsin herd and the one from far-off Pennsylvania. Iowa has been a good market for Guernseys and her dairymen have acquired many of the best. It was no easy task mapped out for Prof. G. P. Grout, St. Paul, Minn., in distributing the honors. He generally adhered closely to the utility standard, although in some cases exhibitors would have preferred more recognition of quality and character and somewhat less attention to rudimentaries and veins.

A big bull of masculine character, pleasing type and large chest made a good top for the aged bulls. He was separated from his long level, less bulky herd-mate by a low-set bull of much quality. A very deep-bodied low strong two-year-old was put at the head of the next class although many preferred the type and quality of the less rugged Lord Mar of Manor. Third prize went to a rather meaty bull, while a big deep bull of pleasing type but sagging a little on top stood fourth. There were some who would have placed him higher also. A good lot of yearlings was headed by the Lord Mar bull Rex Mar. The calves were also uniformly attractive, although there was no apparent necessity for pinning the faith of a grand championship on a bull calf in the company of such excellent older bulls.

The famous Glencoe's Bopeep came handsomely into her own right to all the honors within reach. Her sweet matronly stamp, immense barrel, splendid udder and beautifully molded form are well known among Guernsey admirers, and her reputation suffered none by the comparison with the good cows shown against her. A big strong cow from the same herd was fifth, that some good judges would have rated higher. The second-prize cow is also a big one with considerable mammary capacity. A capacious three-year-old headed her class. Beside her stood one more nearly level, very deep and wide and full of quality. A heifer of great apparent consituation won among the two-year-olds. Next stood a smaller lower-set heifer also of excellent stamp, while one with remarkable development of fore udder came third. The ten yearlings and fourteen calves furnished plenty of work and evident perplexity for the judge.

AYRSHIRES.

There were only two herds of Ayrshires but they made a very attractive high-class show. J. F. Converse & Co. of New York and Adam Seitz of Wisconsin were the exhibitors who brought this hardy active beautiful race of milk-producers to the attention of the Iowa fair-goers. All who saw them were favorably impressed. Prof. G. P. Grout judged the exhibit. In no case could he go far wrong, although he paid less attention to breed type than may have been best. Few judges would sanction his preference for the New York bull over the more impressively fronted, larger, deeper Wisconsin bull. In the aged cow class Sunnyside Lassie came forward with a splendid big soft udder, and her sweet front, long rib and long level rump also claimed recognition. Somehow the judge showed a fancy for the neat little calves, and although he finally awarded the male championship to the senior bull, he could not get away from the beautiful little heifer. She shows great promise of development but some of the older females have that promise fulfilled.

BROWN SWISS.

Three herds filled the Brown Swiss classes handily with cattle that reflected credit on the dairy tendencies of the breed. Iowa was represented by the herd of S. B. Hefty. Allynhurst Farm and H. W. Ayers, both of Wisconsin, furnished hot competition and captured the most coveted ribbons. An accident at the opening of the fair cast a shadow over the Brown Swiss camp. Mr. Ayers was severely gored by his grand champion bull Zell; however, by the time of the judging on Thursday he was able to be in the ring on a stretcher to witness the success of his cattle. E. S. Estell, Waterloo, Ia., tied the ribbons with due consideration for dairy qualities. The senior and grand champion bull Zell is a masculine vigorous nervous fellow, deep and wide at the chest, neat at the back and stamped all over with quality. The bull calf which got the junior purple ribbon is a low-set sturdy chap. The senior and grand champion cow Myone Baby has a very capacious middle and large udder of excellent texture.

MILK TEST.

A three-day milk test was conducted upon the fair grounds with fifteen cows started. The prize was won by a Holstein cow giving 158.12 pounds of milk, yielding 4.48 pounds of butter-fat in the three days.

AMONG THE SHEEP.

An increase of approximately 200 in the number of sheep exhibited over those shown last year filled the regular sheep barns before the sheep were all sheltered. Overflow tents held the rest. While this increase in the numbers on the grounds was largely due to an increase in the number of sale sheep, thus making the addition little felt within the show-ring, it none the less serves to prove that sheep husbandry is slowly, rather slowly, yet surely, very surely, gaining ground in Iowa. It is a short decade since a flock of sheep in an Iowa pasture was occasion in plenty for exclamation. Now these fleecy scavengers of the fields are common. Such a change must needs be felt last in the show-ring, for wise men will not make the leap from no sheep to show sheep at the first try. It is this condition which makes the sheep department in the Iowa State Fair largely dominated by a few importers. Their stuff is good. That is fortunate. It sets a type each year that is strong and a safe guide. And even this year the fact that some Iowa breeders absented themselves until the open classes were done and the Iowa classes begun was the occasion for some uncomplimentary remarks about their nerve and some complimentary remarks about their sheep. A taste of blood would have done them good—and they likely would have got it.

W. H. Beattie, Wilton Grove, Ont., passed on most of the mutton breeding classes. The Shropshire classes proved a triangular fight among McKerrow, Chandler Bros., and Renk & Sons with Chandler Bros. holding the long end. With yearlings and ram lambs they led, showing also the first and second-prize yearling ewes. Renk showed the winners in both classes for aged sheep. Both championship ribbons went to the Chandler Bros. The ram championship class found three fine sheep waiting. All were wooled to suit. The aged ram was thick and typey in the fore quarters and neck, while the yearling carried his best width farther back. The judge found the lamb combining the excellencies of the other two and gave the little fellow the purple.

Oxfords brought out the McKerrow flock, Cooper & Nephews and John Graham & Sons with C. S. Hechtner in with a yearling ewe of outstanding first and championship calibre. The championship on rams went to McKerrow on the yearling. While the aged ram was deeper in chest, the yearling was squarer and wider especially in rump, and width was Beattie's call in the Oxford classes.

Postle & Sons and G. W. Parnell made the Cheviot classes largely a duel. James Scott, from Scotland, who was exhibiting the Collies in sheep driving trials, placed the honors in this division. His work was somewhat different from the average and was keenly watched. The width of back from neck to rump, the wooling on the belly, and the carriage of the sheep were particularly noted. Every sheep was turned loose and given a turn around the ring. That might spoil a fine pose on an awkward sheep, but it is not liable to injure the sheep any. Some knowing ones smiled at first, but their smiles turned to respect when the big tenderhearted Scotch shepherd laid a restraining hand on some of the holders who were a little rough with their own sheep. And later those who questioned found that a keen eye went with the tender heart. He knew the sheep he had worked upon, every one. The Cheviot show he classed as good—"some common yet some very good sheep, good in any country." Four firsts and a championship went to each of the firms mentioned.

Nash Bros. and Alex. Arnold made up the Dorset show with many of the classes not filled. Cooper & Nephews won the lion's part in the Hampshire department with Wm. F. Renk running next in winning. The little Southdown mutton-makers ended the show. It was a uniform bunch, none of exceptional merit, yet all possessed of the thickness that has given them fame.

There were a few Merinos shown by Uriah Cook & Son of Illinois, and A. J. Blakely of Iowa, the former flock winning the greater share of the honors at the hand of C. A. Steele. He also judged the Rambouillets shown by the F. S. King Bros. Co. of Wyoming, and F. W. Cook of Ohio. The western flock took the majority of the ribbons.

IN THE SWINE PENS.

A total of 2,890 hogs on exhibition filled every section of the big hog barns to overflowing with good hogs. That the quality was better than the year before if not better than ever before was little questioned in any quarter. An increase of 700 in the numbers says something for itself on the ever-enlarging position that the swine breeders hold in pork-producing Iowa. It was a gratifying feature of the show that the judges of the major breeds were able to set a definite type in their particular sections, and whether or no any man agreed with the judge, he could still know with considerable assurance what animal was liable to win.

As usual the Poland-Chinas and Duroc-Jerseys headed the lists in numbers. To tell the story of the Poland-China winners is practically to tell the story of the Meharry herd. Winning ten of the fourteen firsts and all of the championships means that the type that the judge picked was practically the type which the Meharry herd so well represents. Only in the aged sow class did any animal of pronounced big type get into the first stall. Her promotion to that position was greeted with enthusiastic applause from the lovers of the larger Poland-Chinas. On the end of the display the judge, J. M. Stewart, Ainsworth, Ia., declared: "We must get together. The small type fellows must get more size and the big type fellows more quality. Then we will have a hog." And his own words tell quickly enough the type which he chose—quality first, then the hog as big as possible with the quality.

R. J. Harding, sorting the big rings of Duroc-Jerseys, did much to place before the followers of that breed a utility type. Once in the championship classes did an exhibitor make open argument against the type of the winning animal. The talk was ill-timed for the very first ring showed the judge's idea and he stayed by it very well indeed. Perhaps the winning hog in the questioned case had more than enough nose to reach from his body to the ground, but he was unquestionably deeper and longer in the body, with equal smoothness. He was just in breeding condition—without the "flesh that covers a multitude of sins." Valley King, first in the class of aged boars and grand champion of the breed, was only a more excellent specimen of what followed straight down the line. Of good length and great depth this 950-pound boar carries his width remarkably uniformly from end to end with hardly a show of shields and with the great bone that has brought this breed into favor in the bone-impoverished cornbelt feedyards. The classes that followed were likewise. A deep-bodied hog of good length always got the call over the "lardy" fellows. It was a matter of comment that the Duroc-Jersey winners were by a marked amount the heaviest of the breeds. Some said they were 25 per cent heavier. Two hundred pounds would little more than cover the difference in the aged boar division. The sow classes ran along the same type. While they showed hardly as much depth as the male classes, most of them were excusable as they still carried marked evidence of their summer's usefulness in the breeding pens. Frame and plenty of it, good length, great depth, and a smooth body on strong pasterns carried the honors.

Berkshires were not a large show. Fewer numbers always make a show look less uniform in quality, bringing such backward individuals as there may be up well forward. But that does not mean that Berkshire men saw nothing good. Mr. McPherson showed stuff that rival exhibitors freely classed higher than the best of a year ago. Rookwood Farm did not succeed in landing a blue yet showed a strong uniform lot of pigs. It was W. S. Corsa's herd that led the winnings and set the type. Being entirely of his own breeding their excellence stands proof of constructive breeding ability. His Rival's Last was outstandingly leader of the male half of the show. He is a good Berkshire—great length, smooth, trim of belly and clean in the head. The grand champion sow contest brought on a fight between the Corsa herd and McPherson's junior champion sow. The latter was the neater in underline and plumper in hind quarters. Corsa's sow on the other hand was deeper, very low-set and carried an extreme depth of flesh over the back, shoulders and neck with a smoothness unequaled by any other Berkshire shown. Prof. W. B. Richards, Fargo, N. D., tied the ribbons.

Hampshires produced considerable competition, with Willie Essig W. J. Brinigar and Mike Sharp & Son, the leading winners. Wilson Rowe of Ames was the judge. His type was length and smoothness of body, neat head and good feet. While bacon-eaters have no use for the feet, most hogs find it necessary to use them considerably, and Rowe is a little particular on that point, and seldom indeed does a hog long in toe or weak in pastern attain high rank, no matter what body it may have.

Mr. Rowe also judged Chester Whites. The comparative quality of the exhibit is best told in the words of a breeder attending both the 1910 and 1911 fairs buying herd boars: "One thing is sure," said he. "It is a much better show than last year. Boars that I wanted then were limited to two herds. This year I find six or seven herds with plenty of good ones in each of them." It was indeed a uniform bunch with an extra fine lot of young stuff.

Frank Thornber, Carthage, Ill., judged the Tamworths and Yorkshires, two herds competing in each. C. C. Roupe won most of the first prizes and all but one championship in Tamworths. The competing herd was that of G. N. Weighton. In Yorkshires B. F. Kunkle won most of the blue ribbons on males, but his rival, B. F. Davidson, secured all first prizes on females and all but one championship.

THE HORSE DEPARTMENT.

Every section of the horse department had a large number of high-class entries, which combined to make a horse exhibit of unusual balance. Every horseman found something to interest and instruct him, and everyone looking for breeding stock got a good glimpse of the material available at the stables of a large range of breeders and importers.

Never have the new and less extensive breeders been so well or so successfully represented as this year. Horses that some of them bought several years ago have been carried along in about as fresh finish as ever they exhibited in the hands of more experienced showmen. It speaks well for the natural aptitude of American farmrs as horsemen. In the light of what others have done there is no reason why a farmer who can use but a few horses should not secure and succeed with the best. Iowa farmers have been encouraged by the comprehensive classification of grade draft horses to take an active interest in the show-ring, and they have demonstrated great ability as breeders and fitters both in the grade and pure-bred classes. Many American-bred stallions and mares won blue ribbons, and some of them bore off the purple as well.

As importers and breeders displayed the character of this stock for the first time this season, it was at once apparent that they have exercised the greatest discretion in making selections. Only horses that fit the standard demanded in American draft horse markets were brought over this season from France, Belgium, England and Scotland. Importers are determined to furnish their customers just what they can use to best advantage. There is a notable scarcity of inferior horses in the show and sale stables. It costs a neat sum to bring a horse across the water, and there is a steady tendency to deal more and more in high-class stock for which the expenses figure only incidentally in the price. While there is plenty of good material available for the trade this fall, and no excess of trash, the way business opened up at Des Moines indicates that it will be well to buy early. Not much was expected in the way of sales, owing to the drouth which has reduced the amount of feed and of cash crops in Iowa, but exhibitors found a good inquiry and a ready market for quite a number of their best horses, some taken singly and some in groups.

The horse department was too full of horses and classes for the room it could have in the pavilion, and consequently there was a little confusion among the exhibitors toward the last of the showing. It was impossible to get all of the judging done where it could be easily watched, but Prof. Curtiss has in mind improvements of buildings and the arrangement of the judging programme that will enable both exhibitors and public to get a larger measure of satisfaction from the showing another year.

THE PERCHERONS.

As usual, Percherons far outnumbered every other breed of horses shown at this fair. There were 243 Percherons on the grounds this year. That is only about three-fourths of the number shown last year owing to the conflict of dates that drew some large exhibitors to other points, but taking the classes all through, the qualtiy of the stock averaged higher than has ever been the case before. All of the classes were well filled, most of them running around twenty head or more, which made the keenest of competition and gave the judge an opportunity to select horses that closely conformed to his ideal type. Even the exhibitors who were comparatively new at the business brought out their horses in splendid condition and the list shows that they captured many coveted positions. Probably the prizes have never before been distributed among so many owners.

Prof. W. L. Carlyle, Moscow, Idaho, assigned the places on the prize-list. His was a big task, but he worked rapidly. Every horse got careful inspection and an opportunity to show how he could go, but there was no tarrying over those that fell below an exacting standard as to underpinning, action and breed character. Altogether his decisions were very favorably received, although some of them necessarily depended upon a very close balancing of points.

Sixteen aged stallions lined up at the first call, and there was not a bad one among them. It did not take search, however, to discover an outstanding winner in the big black Garage. He is of rare balance, with proud impressive front, strong level top and croup, a full middle, big hard bone and extra well made hocks. He trotted off with a long stride, and whether going or standing he is an impressive horse. Strong underpinning of good quality stamps Gillot, standing next, but he is not so massive or so level of top as his rival, although he is more smoothly turned than the other Burgess horse Halicte, which stood third.

The Burgess stable also came to the front in the next class with a black three-year-old called Indelicat that is built much like Garage, except that he is lighter of waist at present. He is a horse of bold front, great substance at each end and stands on excellent legs. The Truman colt Ivers came in readily enough beside him, for, although he looks scarcely so rugged, he is wide, powerful and smoothly made, with a very attractive top. A colt of remarkable underpinning came third, but he is thin after his season of seventy-five mares. This colt Indigene has hocks and pasterns of a pattern to please a Scotchman, and his legs and feet bear the undeniable stamp of superior quality. A horse of lower more blocky pattern came fourth.

The twenty-five two-year-olds included twelve from the Burgess stable, among them the big black Juridique which won first at Nogent this season in a class of 208. He weighs over a ton now and is considerably larger than any other colt in his class. A big chest and powerful stylish front, deep flank and excellent legs and feet characterize him as a genuine draft horse. Beside him stood a smaller, thinner colt of McMillan's, Kallerman 2d, that attracted much attention by his rare balance of conformation from his long shoulder, and head carried high, to his long level croup, powerful thighs, and legs and feet that look fit for many years of service. One of the wide powerful drafty kind came into third position for the Truman stable.

Yearlings numbered twenty-two, and in this class also the Burgess stable asserted its excellence. The gray colt Keronly is thin but built upon a superior pattern both as to top and bottom. The black Masterpiece from the McMillan stable is not so large but rather more blocky in build, with unusually heavy muscle and bone and a pattern of legs and feet that called forth much praise. His stablemate Agitator, standing beside him in the final line-up, is of much the same general pattern, but he has not stood up so well under the heavy feeding, so there was general surprise among the spectators that he got as high as he did. Both of these colts trot off well and are a great credit to their sire Calypso. In the championship contest Prof. Carlyle preferred the superior action, feet and pasterns of the two-year old.

The white mare LaBelle, a prizewinner at the last International, came to the front of the line of twenty-five mares, the equal of which have never before been gathered at a state fair. She is of matronly and distinctly Percheron stamp, and is now suckling a foal. She won her honors, however, not without a hard struggle against the International champion Amorita, which was brought out more highly fitted than at the time of her famous triumph. Amorita is strong in the length of her croup and the beauty of her stride, but the white mare probably excels her in depth of chest, and she is withal very correct in pasterns and feet, with a sweet feminine front. Last year's winner Favorite came back in splendid form and there were some who preferred her range and style to the type which got the chief recognition. Her stablemate Della bears an attractive stamp of quality and femininity. Among the nine three-year-olds the big blue-roan Imprudente, shown so successfully last year, came in easily to first place, but she was beaten in the competition for the purple ribbon by the white mare, which the judge considered more matronly. Burgess & Son also won the blue ribbon for two-year-olds on a thin, well balanced gray, and her stablemate got the red also. Yearlings were led by two big smooth fillies from the Buswell stable. A Carnot filly excited much admiration in the class of foals. There were full classes for American-bred horses, and the average quality of stock shown compared favorably with the open classes, as many of the horses raised on American farms won ribbons in both sections. The horses of McMillan & Sons and Maasdam & Wheeler were most conspicuous in the restricted classes, but some of the blue ribbons as well as minor honors escaped to the hands of less extensive breeders.

THE BELGIANS.

Belgians stood next to Percherons in point of numbers. There were twenty exhibitors and 100 horses to give zest to the competition. From first to last it was a show of massive draft horses, combining quality and substance to a marked degree. Most of the classes were filled sufficiently so that only horses of exceptional character could get inside the money. Prof. W. J. Kennedy, Ames, Ia., tied the ribbons with particular care to secure bone, quality, strong feet and a thick full-made Belgian type in winners. When the classes were ready for the ribbons it was the general comment that the powerful easy-keeping drafty pattern of extreme weight was well exemplified among the horses of the breed. Belgians have a strong foothold in Iowa, and numerous small breeders from the central part of the state were represented by horses that convincingly assert the adaptation of the breed to the cornbelt, and of the cornbelt to the breed.

The heaviest horse in the entire show came proudly to the head of the line of nine aged stallions. This Finch roan Jupiter won third place last fall at the International when he was thin. He has preserved his legs in excellent form while taking on the mountain of flesh that he carries smoothly and with ease. His weight was given at 2,600 pounds. He is one of the best balanced horses of extreme size that has come to this country. Martin du Hazoir, now nine years old, came back in splendid form and weighing 2,225 pounds after just finishing a season of over 100 mares. He preserves his form and quality from top to bottom with a persistence that demonstrates the possibility of breeding draft horses that will wear as well as weigh. A somewhat smaller compact durable type of blue-roan won third for Chas. Irvine. Finch Bros. also came to the top with the chestnut three-year-old Saturne, a colt of unusual substance and finish of underpinning. A rather more compact bay stood next. The next blue ribbon also went to the Finch stable on a chestnut two-year-old. This colt, Challenge, built right from head to heel, was an easy winner, and he did not end his triumphs until he had wrested the chief honors of the male classes from his burly stablemate. The yearling class was led by a rather upstanding but wonderfully forward chestnut shown by Hopley & Son. Iowa breeders brought out a very good lot of stallion foals.

Chas. Irvine's roan mare Duvelinne was a winner in her class, with her great weight, solid type and easy action. A thin, matronly bay of unusually rugged build pushed her hard for the honor. The next two mares each had admirers, but Prof. Kennedy preferred the strong back and bone of the chestnut Bon Marche to the finish and style of the other. There were only two three-year-old fillies. The half-dozen two-year-olds included the outstanding roan Binette with which Henry Lefebure subsequently won the reserve championship. She was beaten in this final contest by the chestnut yearling filly Hector from the Finch stable, a youngster of remarkable balance, big, level of top, long of croup and set right at the ground. J. A. Loughridge showed a very sturdy pair of filly foals that headed their class.

THE SHIRES.

Shires to the number of ninety head made a strong exhibit all through, convincing all who saw them that importers are bringing a valuable class of English cart horses to this country and that American farmers are going right on with the constructive work begun on such a solid foundation. R. B. Ogilvie, Chicago, Ill., tied the ribbons except in the final classes, which were handled by Prof. Kennedy in his abesnce. Bone, clean as well as strong, and substance both above and below, with powerful straight-away action characterized the winners.

The big sturdy muscular bay Scarcliffe President came readily to the front among eight good aged stallions. With all his massiveness he combines a pleasing quality and a sprightly walk and trot. Surveyor came back again in excellent form and won second for Crownover, beating a more rangy thin active bay from the Truman barn. Royal Grey, first-prize winner at the last International, came forward easily in the next class, which was a very strong one. He has gained weight and middle and still displays the excellent underpinning that called forth praise last year. He won the championship. Truman's also won first among the two-year-olds with a son of Shelford Pride, and his long pastern, great bone and finish all over stamp him as a worthy descendant of the famous International champion. There were eleven good yearlings, but Paramount Rex stood out prominently among them, as he has done in every class he ever entered. For so young a colt he exhibits rare muscular development, immense bone and a powerful frame, all finished beautifully. He did not end his triumphs until he had obtained the reserve championship.

CHAMPION SHIRE STALLION
Iowa State Fair and Exposition, 1911

Coldham Surprise, second at the International last year, came back along with a splendid foal and won handily among the aged mares. She is heavy in build and bone, wears very silky feather and bears the stamp of an aristocratic matron. Her daughter, Coldham Charm, led the three-year-old class. She is an upstanding filly of great spread and bulk of frame and a sweet countenance. She came next to her dam for championship honors. A big heavy-boned typical cart horse pattern brought the Hopley standard to the front in the two-year-olds, and a sturdy chestnut yearling won for A. G. Soderberg. The promising filly foal of Coldham Surprise by Holker Menestrel 2d was easily victor in her class.

THE CLYDESDALES.

A very high standard of drafty character was set by the seventy-one Clydesdales that came before Robert Miller, Stouffville, Ont., for their ribbons. There has been a great improvement in the size and substance of Clydesdales shown at this fair in the last two years, and it has been made without deterioration in finish or underpinning. The exhibit came from a wide range of territory and represented the work of both large and small breeders and the importers in a very creditable manner.

David Roth won the first blue ribbon with the very drafty Softon, a horse of great bone, excellent pasterns and bottoms, and powerfully built above. Two horses from the Leitch stable, both typical Clydesdales, followed. Samuda, another of the big drafty sort, yet with underpinning and action of approved pattern, won the blue for McLay Bros. in a strong class of three-year-olds and he came next to the aged horse for the championship. The same firm also won the red in this class with a colt especially well furnished at the ground, and a good goer. Leitch won in the two-year-old class with the typical bay Royal Mint, which was separated from his smaller stablemate by the rugged Hixon colt Baron Lynedoch. A very thick sturdy youngster from the Hixon stable won the blue in the stallion foal class.

Two of the McLay matrons stood at the top of the aged mare class, and each had her admirers. Miss Fanny is in better condition and is a beautiful type from head to hoof, but Marjorie is perhaps a little more powerful of frame, deeper of chest and goes more acceptably. McLays had it all their own way with three-year-olds, but they were fully prepared for competition with the champion Bessie Winsome. Their Graceful Lady, full of middle, and attractively turned, won the two-year-old class, but Lady Lustrous was beaten among the yearlings by the larger Queen May.

THE DRAFT HORSE FUTURITIES.

The National Draft Horse Breeders' Futurities were the occasion of bringing out the largest and best collection of yearling stallions of the four draft breeds ever collected at a state fair. These futurities were established a year ago by "The Chicago Daily Live Stock World" at the suggestion of J. H. S. Johnstone, under whose management the scheme was perfected and operated. The plan worked out very successfully. The total of all cash and the value of the handsome cups, medals and ribbons reached a sum of $3,461. Besides the cup awarded to the first colt of each breed, the cash prizes to the same colts ranged from $100 in the Clydesdale and Belgian classes to $225 in the Percheron class, and the smallest sum won by any of the successful colts was $15 for the Percheron in twelfth position.

The judging was all done at one time, with twenty-two Percheron colts, eight Belgians, eleven Shires and ten Clydesdales, making a total of fifty-one American-bred colts, which is the largest collection of yearling draft stallions ever gathered in one show-ring in America. Positions were awarded among the Percherons by Prof. W. L. Carlyle, R. B. Ogilvie and J. H. Truman; Belgians were judged by Prof. W. J. Kennedy and A. Latimer Wilson; Shires were rated by R. B. Ogilvie and R. P. Stericker, and Clydesdale positions were assigned by Robert Miller, Andrew McFarlane and Robert Burgess. Considering the fact that the committee system of judging was used, and the value of the winnings was unusually large, the judges were very successful in pleasing the exhibitors.

GRADE DRAFT HORSES.

The classes for draft geldings and mares shown to halter and in harness were all well filled. The candidates for prizes were drafty in type and of a superior quality that indicates how keen the competition in these classes has grown to be. The gray four-year-old grade Percheron gelding Prince that won two second prizes is a farmer's horse that has won over $200 since he was first exhibited at the local fairs and he was sold the other day to a New York buyer at $400. Positions among these horses were assigned by R. B. Ogilvie except in a few of the later classes, which were judged by Prof. W. J. Kennedy.

HACKNEYS.

There was a high-class lot of Hackneys brought before R. P. Stericker. Oconomowoc, Wis., and he did careful and consistent work in assigning positions on the prize-list.

FIVE-GAITED SADDLE HORSES.

There were numerous entries of five-gaited saddle horses, some of which have national reputations. They were judgd by Walter Palmer, Ottawa, Ill.

SHETLAND PONIES.

Entries of Shetlands reached a total of 186 head, which is a much larger number than has ever before been gathered at this fair. Considering the fact that there was no ragged or inferior stock included, while a number of ponies of international fame came out in their best form. this section made one of the best pony shows ever seen in America. R. P. Stericker, Oconomowoc, Wis., did the judging. His long horse show experience makes him peculiarly fitted for such a task. There were many local exhibitors showing, and there was a very keen rivalry all around, so it was, of course, impossible to please all interested parties. His work all through was very consistent and followed accepted show-ring standards of types and action. The blue roan Locust created a sensation by his very showy performance in harness, which secured for him the championship. His action is extremely high all around and his build and style are not greatly excelled by the famous Grandee, which won his accustomed place at the top of the class of aged stallions.

WELSH PONIES.

Welsh ponies were more numerous and of higher quality than has been the case before. The breed is undoubtedly gaining steadily in the appreciation of American fathers and mothers who seek mounts and driving ponies for their children as they outgrow their Shetlands.

Wallaces' Farmer.

If some of those eastern financiers who have been lying awake nights worrying over western agricultural conditions had spent last week at the Iowa State Fair, they would have gone home tired but feeling better. There is no better barometer of agricultural conditions in the cornbelt than the Iowa State Fair. The attendance this year and the temper of the people ought to reassure the most pessimistic pessimist. Never before has it been so large, and seldom has a more cheerful and satisfied spirit been so manifest. The railroads coming into Des Moines were taxed to their capacity, while hundreds of farmers from all sections of the state drove into the city in their automobiles. While the general report was to the effect that the corn crop was not up to last year, and that there had been a short hay crop, and the pastures were short, there was no note of discouragement. Everybody seemed happy. Crops were not as good as some previous years; that was all.

If anyone had a lingering doubt that this is a dry year, it was surely dispelled last week. When the Iowa State Fair fails to bring at least one rainy day, it is dry weather for sure. No one in Iowa would have complained very much had it rained last week, but since it did not everyone in Des Moines enjoyed the delightful weather to the utmost. With the exception of one day there was not a cloud in the sky, and not until Thursday did the thermometer reach a point which made sight-seeing at all uncomfortable. It was ideal, made-to-order fair weather throughout the week. Even the wind was tempered to the needs of the Wright biplanes, which made very successful flights each day.

These aeroplanes were a revelation to those who had not seen anything of the kind before. They rose from the ground like great birds, flew hither and thither at will, described figure eights, and ascended and descended at the will of the operators. Except on one day these machines seemed as stable as wheeled vehicles on the ground. On Tuesday the wind blew irregularly, and the uncertainty of aeroplane navigation was apparent in the unexpected dips made by the machines when struck by the fitful gusts. The flights made last week, however, were sufficient to convince all but simon-pure skeptics that the aeroplane is to play a tremendous part in the civilization of the future. With the growth of aeroplane factories peace commissions will go out of business. War will be simply impossible with these great birds of the air carrying high explosives and flying at will by daylight or in the dark of night over cities, fortifications and battleships. The enemy in the air will hold lives in the hollow of his hand.

There was no lack of entertainment features. In addition to the aeroplanes, which made two flights daily and could be seen from all parts of the ground, there were the races and vaudeville stunts in front of the grandstand by day, and an elaborate fireworks display at night. In the stock pavilion a very good show was held each evening, while the seats were filled by an interested crowd which watched the stock judging closely. There were the usual side show attractions on the ground, not particularly elevating, but not of the distinctly reprehensible sort. The Iowa Fair management has for years exercised a close censorship over side shows and concessions of all kinds.

The Agricultural College had a fine exhibit, one of much value to every farmer who inspected it. It is impossible to compute the money value of an exhibit of this sort to the state of Iowa, but we would estimate that it would run into the thousands of dollars. Besides this, many farmers and farmers' boys received an inspiration to strive for the higher things of farming that should stay with them for a long while. The extension department at the Agricultural College is certainly to be congratulated on the way in which it has learned to present graphically agricultural truth. The extension department has been conducting dairy test associations in the northern part of the state. The results are very interesting. These were represented by what appeared to be huge blocks of butter. One block labeled 430 pounds represented the butter yielded in one year by the best one of the 688 cows in the five dairy test associations. A small block labeled 89 pounds represented the butter yield for the year of the poorest cow in the associations. The best 200 cows in the test had representing them a block nearly twice the size of that representing the yield of the poorest 200 cows. The average yearly profit of the best cows was $52, while that of the poorest was $20. One of the Holstein cows at the dairy department of the Agricultural College produced in one day fifty quarts of milk. Fifty quart bottles represented this fact, so that the eye grasped it at once. There was no particular moral to this representation, but it was interesting, especially to the small boys, some of whom would make exclamations such as "Gee! Did one cow give all that in one day?" If each of these quarts of milk could have been sold at eight cents, the present retail price, the one day's milk of this cow would have been worth $4. Her feed cost 25 cents. Butter-fat sufficient to make 717 pounds of butter were piled in a pyramid. These represented the wonderful yield of butter made by a Guernsey heifer last year at the dairy barns of the Agricultural College.

We hope those of our readers who visited the fair noticed the soy bean plants which were exhibited in connection with the agronomy exhibit of the college. This plant will, we believe, be used far more as a catch crop to furnish a cheap supply of home-grown muscle builders, either in the form of hay or grain, on those farms which are temporarily short of clover or alfalfa. The results of rotation experiments were portrayed in connection with this department. Corn grown four years in succession on an acre of ground gave a total money return of $70.40, while the returns from two crops of corn, one crop of oats, and a crop of clover, from an acre of ground were $78.85. Those farmers who insist that the way to make money is to grow corn at every opportunity should have studied this part of the exhibit carefully. A large placard claimed for the rotation the following advantages: First—It maintains fertility. Second—It gives better physical condition to the ground. Third—Prevents washing. Fourth—It diversifies agriculture and saves labor. Fifth—Drives out insects and weeds.

The fruits of Iowa have this year been remarkably free from worms and fungous diseases, consequently the horticultural display did not attract the attention it should. The work of the apple tree borer, the plum curculio, the grape phyloxera, the fall web worm, the brown plum rot, etc., etc., was illustrated. In case of insect damage, the insects themselves were on exhibition. All of these troubles bother Wallaces' Farmer readers every year, and we are quite sure that half an hour could not have been more profitably spent than talking with the man in charge of this exhibit as to the habits and methods of controlling insect pests which may have been bothering on the home place. One of the most interesting things in connection with the horticultural display was the smudge pot exhibit. Smudge pots have been used with great success in the west to prevent frost damage to fruit. Of all the foes to the Iowa fruit crop, frost is the most to be feared. By means of smudge pots, however, blossoming fruit may be protected even though the temperature may be several degrees below freezing.

In the domestic science corner of the college exhibit was much to interest farmers' wives. Charts showed the feeding value of different foods. The importance of using cleanliness in feeding bottle babies was demonstrated by statistics which prove that of all the babies which die in the summer in Iowa, 93 per cent are bottle fed. Fourteen per cent of all the deaths in Iowa last year were babies. Conservation of our timber lands, of our coal lands, and of our soil fertility is of the utmost importance. Conservation of human life has not received the attention it should. The saving of babies' lives exceeds by far the importance of saving forests, coal lands, phosphate beds or soil fertility.

The weed exhibit deserved more attention than it received. Wallaces' Farmer would have been very glad, indeed, if every farmer in the state had looked long and carefully at the pictures and specimens of Canada thistle, quack grass, sorrel, wild carrot, and many other weeds of which our readers are continually sending us samples for identification. Many a farmer could have spent half an hour to advantage here looking over carefully the samples of various weeds, and asking the attendant questions as to the best method of eradication.

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The college poultry exhibit was in the poultry building. This was unusually interesting and valuable. Charts gave suggestions on the many things of interest to poultry breeders, such as the best way of handling eggs for market, how to prevent white diarrhoea in young chicks, etc. There were several types of model poultry houses. An interesting feature was the exhibit of eggs with the yolks colored in layers of red and yellow, the college colors. This was done by feeding the hens a red dye. It seems that in the yolk of an egg are alternate layers of fatty material and material without fat. The dye affects the fat and changes it to a red color.

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As usual, there was a soil map of Iowa, showing the distribution of the Wisconsin glaciation, the Iowa glaciation, the Mississippi loess, the Missouri loess and the southern Iowa loess. The comparison between the black soil of the Wisconsin glaciation in the northern part of the state with the lighter colored and more easily worked loess soils in the western part of the state was striking. Pasteboard dots on the map illustrated where alfalfa had succeeded, partially succeeded, or failed. It was interesting to notice that alfalfa has been grown most extensively and successfully as yet in the western part of the state on the loess soils. Whether it is because this type of soil is particularly adapted to alfalfa or that the farmers in the western part of the state have had more experience with alfalfa and learned more from Nebraska farmers concerning the methods necessary for successful culture, we can not say.

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The game exhibit this year was housed under a big tent, and was in a shape which rendered the pheasants and other wild fowl much more easily inspected. The brilliantly colored, ring-necked and silver-plumed pheasants attracted much attention, especially from the children.

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The exposition building exhibit changes but little from year to year. Nevertheless there is always much of interest here. Modern house-furnishings always attract attention. Tables, chairs, carpets, stoves, pianos, sewing machines, etc., etc., will always hold the attention of the housekeeper. In the south end of the exposition building was an exhibit by the blind. The ability which was shown in making quilts, brushes, clothing, etc., was truly wonderful. The raised point writing used by the blind in their reading made many thankful that they could enjoy a book by the aid of the sense of sight rather than touch.

The school exhibit on the east side of the exposition building far surpassed those of former years. Especially interesting was the work of some of the rural schools. Page county pupils had written little booklets on foolscap paper, dealing with such subjects as leather, corn, wool, rope, corn enemies, etc. A description was given; methods of manufacture, culture, or habits, as the case was, were dealt with; and the whole was plentifully illustrated. One school had some fine weed exhibits. The weeds had been pressed, mounted and labeled. Such work is well worth while in either the rural or the city school. An exhibit showing the grain and bark of native woods was worth inspection. Tables, chairs, stands, etc., as well as sewing of various kinds, illustrated the proficiency of our pupils in manual labor .

The free traveling library of the state of Iowa had its headquarters in the exposition building. We hope every farmer in the state knows about this library. Any person in the state, outside of the city of Des Moines, may secure books from the free traveling library by complying with certain conditions which are not at all hard to meet, and paying the cost of transportation of the books to and from the state historical building at Des Moines. Of special interest to the farmers is a list of some seventy-five of the very best books on farm subjects—soils, drainage, crops, corn, stock dairying, horticulture, spraying, poultry, farm buildings, etc. Experiment station bulletins may also be had. Women may obtain books on domestic science. Debating clubs may secure reference works. From a hasty inspection of the exhibit of the free traveling library we concluded at once that it would be well worth the while of many of our readers to write to the library commission, at the state historical building at Des Moines, for further information.

The exhibit at the agricultural building was very little of an improvement over that of last year. Fruit, garden produce, and flowers were much the same as ever. The individual farm exhibits, however, proved to be an even greater success this year than last. Some fourteen or fifteen farms competed. In this department the farmer who has the most varied display of field, garden and orchard products arranged in good shape, wins.

The pure food exhibit made by the state food and dairy department in the agricultural building was worth careful inspection. Iowa farmers, both to protect themselves and to avoid infringing upon the law themselves did well to read carefully the circulars dealing with various phases of the Iowa law distributed here. The maintenance of a high standard for milk, eggs and other food products certainly deserves the attention of all the citizens of our state. We hope that this department will come back with an even stronger exhibit next year.

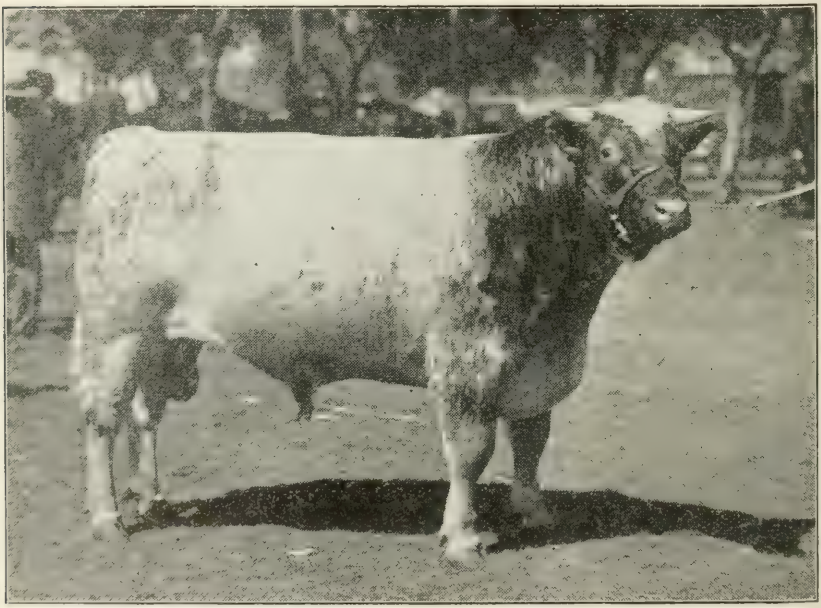
To many farmers, and especially to farmers' boys, the machinery exhibit is of more value than any other one department of the fair. The display this year far surpassed those of previous fairs. The wonderful new machinery building just west of the administration building added to the attraction of the machinery exhibit. At present this building has an extent of 270x520 feet, and when completed will cover more than five acres. Large as this building is, however, it contained but a very small part of the mammoth exhibit. The most striking feature of the outdoor machinery display was the large number of silos. They attracted great attention, and it is to be hoped that at least several hundred farmers will have been inspired to erect silos. We consider it a good scheme for the farmer's wife to accompany her husband on the inspection of at least part of the machinery exhibit. She might, with profit both to herself and her husband, direct his attention to such labor saving devices as gasoline engines that run the washing machine, house-lighting plants, water systems, heating plants, etc. We saw some farmer boys who learned much in their inspection of the machinery. First, they satisfied themselves what a given machine was good for, and then they looked it over carefully and noticed how it did its work. For instance, they would compare a certain disk drill with their home drill, and discuss the value of recent improvements which had been made. These boys learned something. They were not only looking for ways of doing their home work easier, but they seemed to have an insatiable curiosity, which caused them to poke into things and ask questions continually. We are convinced, though, that many of the boys did not really learn a thing about the machinery. They idled along, looking first at this and then at that, stopping at the places where the most people were gathered or where an engine was making the most noise.

THE CATTLE SHOW.

The cattle show, wonderfully good as it was, did not greatly surpass the high standard set by previous fairs. The dairy show as a whole was by far the strongest exhibit that has ever been seen at the Iowa fair. The beef breeds were hardly up to the usual standard. There was a wonderfully strong show of Herefords, and the Galloway, Polled Durham and Red Polled breeds all surpassed last year's strong exhibit. The cattle show should surpass in both numbers and quality that of any other state fair this year.

THE SHORT-HORNS.

A strong feature of the Short-horn show this year was the good showing made by the Iowa exhibitors. It may not have been the best Short-horn exhibit that has been seen at the Iowa State Fair, but with pastures burned brown all summer, it was not a year to expect the "best ever." Yet the barns were nearly as full as a year ago, and competition was sufficiently strong to make the show interesting from start to finish. A judge from Scotland, Mr. J. L. Reid, tied the ribbons, which added to the interest. A number of the winners are of such pronounced showyard merit that they are certain to continue strong winners around the circuit. The aged bull class brought out an even dozen and furnished the grand champion, in Harding's Sultan Mine. A number in the class were rather plain from the showyard standpoint, but good, thick, rugged herd bulls. The two-year-old bull class was not large, but was a class of good ones. McMillan & Sons were first with Hampton's King, a thick, low-set fellow, who was also awarded the Iowa championship. The senior yearling bull class, with ten extra good ones, gave the judge a really hard task, even to satisfy himself. Rapp Bros., of Nebraska, were awarded first on Foxy Favorite, a big, strong, good-topped red bull in prime condition. Saunders, of Iowa, was such a close second with his white bull, Royal Cumberland, that the judge admitted that another judge might change it, while Professor Curtiss was third with Count Avon, a beautiful roan of such fine character and finish that some would prefer him to the other two. The fifteen junior yearlings made another very strong class, and brought out one of the most sensational winners of the show. This was Powell & Son's King Cumberland 2d, a full brother to the champion King Cumberland, brought out by Powell two years ago. He was first in class and junior champion, and had friends for even more



JUNIOR CHAMPION SHORT-HORN BULL
Iowa State Fair and Exposition, 1911

honors. In the senior bull calf class, with seventeen in the ring, Saunders won first with a very attractive calf of good type, but did not have a walkaway. The junior bull calf class was a ring of twenty, with Saunders again in the lead. From the showyard standpoint the aged cow class, with an even dozen, was just fair, as some of the best had lost their bloom. The two-year-old class made a much better showing, and was a strong class. Tomson Bros., of Kansas, won first on a daughter of Bampton Knight, but had close competition from Watts & Sons, of Iowa, with a daughter of Sentinel. The senior yearling class brought out nineteen heifers that included several very strong numbers, and there was a nice class of juniors.

THE ABERDEEN ANGUS.

The Angus show was wonderfully strong as it was, but scarcely came up to the high mark of previous years in numbers. As ever, the quality was exceptional. Seven Iowa exhibitors competed for the prizes, four less than last year. The competition simmered down to a three-cornered contest between Binnie, McHenry and Battles. McHenry had slightly the best of the argument, securing the senior champion cow and scoring heavily in the herd classes. Miller secured several firsts and the grand champion female, while Anderson, Arney and Baker occasionally landed well inside the money. In the class of aged bulls, McHenry had things his own way, with Quality Prince, a bull of great scale and excellent quality. Owing to an injury, Battles' Oakville Quiet Lad was not shown this year. He would certainly make the competition in the aged bull and champion classes more interesting. In a class of four two-year-old bulls, Binnie had an outstanding winner in Kloman, a bull of superb quality and excellent finish, which afterwards was made a senior and grand champion. In the aged cow class, McHenry was out again with his Barbara McHenry 24th, who quite easily took first in her class. The younger female classes were for the most part of beautiful quality, ranging very uniformly throughout, the tails of the classes not being markedly inferior to those at the top. The prizes were awarded by Dr. H. M. Brown of Hillsboro, Ohio.

THE HEREFORDS.

There was nothing in this year of drouth to foretell the magnificent display of Herefords made at Des Moines last week, so the wonder is all the greater that this show should be bigger and better than the grand display made by the Hereford exhibitors at the Iowa State Fair a year ago. The Hereford enthusiam that prompted it must come from a revival of the business, and is too strong to be seriously affected by such handicaps as burned pastures. There were 248 head of Herefords on exhibition, which was a 15 per cent increase over last year, and the exhibitors were from five different states. Among them were some who had never exhibited at the state fair before, but the list also included some veterans in the business, among them Makin Bros. of Missouri, and Van Natta & Son of Indiana, each continuous exhibitors of Herefords for more than a quarter of a century. Robert Mousell, the well-known Hereford expert of Nebraska, did the judging. The first class called brought out ten good aged bulls. Makin Bros. won first with their great show bull, Paragon 12th, who was first last year also. The two-year-olds, with seven in the class, were headed by Harris' Gay Lad 6th, who was also awarded championship. Van Natta & Son won first in both the senior and junior bull classes, their junior winner being their first prize calf at Kansas City and Chicago last year. He is developing well, very growthy for his age, and won in a strong class numbering thirteen. The female classes brought out some very strong competition, and it is doubtful if a stronger two-year-old class has been seen in years. The class numbered seventeen, and all good, big, growthy heifers, with the quality and finish that wins. After the prizes were awarded, there were still very worthy ones left outside the money. First went to Mr. Cudahy, on Scottish Lassie, last year's grand champion for Doctor Logan. The Hazlett second prize heifer also looked like championship material, and others were not far behind. The cow class was a ring of good, big ones, fourteen in number, and furnished the grand champion. The competition, however, for this coveted prize was very close, and there were some who would have again made Scottish Lassie the grand champion. The yearling female classes were not so uniformly good as the older classes, but were large. The Iowa champion bull was Distinction, owned by Cyrus A. Tow.

THE GALLOWAYS.

The Galloways were exhibited by breeders from Iowa, Nebraska and South Dakota. Straub Bros., of Nebraska, secured rather more than their proportion of the prizes. The shaggy blacks are continually becoming more like Angus. They will always have an individuality of their own, however, and it is doubtful if they will ever take on the extreme quality and smoothness possessed by the Angus. This breed is one that is deserving of more attention, especially in the northwestern part of the corn belt. The awards were given by Hon. Chas. Escher, of Botna, Iowa.

THE POLLED DURHAMS.

Both the quality and the size of the Polled Durham show pleased us. These cattle are continually approaching the best of the Short-horn types, in beef form and quality. Some of the animals seem to be more of the milking strain than the best of the show ring Short-horns. The Polled Durham show is one which we hope to see grow steadily. We feel that it is not nearly as big now as the breed deserves. The Iowa exhibit of Polled Durhams was not so strong as it should have been, and a large proportion of the awards went outside of the state. J. H. Miller, of Indiana, won heavily. The prizes were awarded by Chas. Bellows, of Maryville, Mo.

THE RED POLLEDS.

Six Red Polled exhibitors, of whom five were from out of the state, made strong competition in this dual purpose breed. Hill, of South Dakota, and Davis & Haussler, of Nebraska, secured the lion's share of the prizes, though Clouss, of Iowa, scored heavily in a number of the classes. It is hard for the onlooker at the show ring to work up much enthusiasm over the Red Polled, for the reason that they represent neither a strictly dairy nor a beef type. We are convinced, however, that this is a breed well worth watching, for the representatives of it are constantly improving in quality. H. J. Handschin, of North Dakota, judged this interesting breed.

THE FAT STOCK SHOW.

The fat stock show was good, considering the earliness of the show season. Most of the animals were a little underdone, but some showed in the very prime of condition. For the first time in a number of years, the Short-horns won the grand champion steer, Tomson Bros., of Dover, Kan., coming out on top with the red and white steer, Benefactor. Last year, when shown by the Kansas Agricultural College, this steer won a number of prizes, taking second place at the International in the yearling Short-horn class, and being beaten only by the champion Canadian steer. By no means did Benefactor have things his own way in the grand championship class. The big Escher & Ryan grade Angus and Van Natta's pure-bred Hereford yearling both gave him a run for the money. The Short-horn was undoubtedly the highest finished, and in quality was of the very best. He should dress out a wonderfully high percentage of meat. Some criticised his flesh as being a trifle soft. Tomson Bros. will certainly have a job on their hands to keep him in the very best of condition throughout the show circuit. The big Angus grade carried a wealth of hard, smooth flesh, but had the framework to put on even more. He is a wonderfully good steer at the present time, but has more room for improvement than the Short-horn. Donald Lad 5th, the pure-bred yearling Hereford, is a steer of wonderful smoothness, and the highest of quality. The greatest fight was between the Angus and the Short-horn, however, and when the three judges finally declared in favor of the Short-horn there were many who were pleased. The Short-horn steer show was not as heavy and on the whole not as good as it might be. Saunders won the grade Short-horn classes, while Tomson Bros. secured four out of the five prizes in the pure-breds. The Hereford exhibit was much the same in numbers and in quality as the Short-horns. Van Natta and Cudahy divided most of the prizes in the pure-breds. Tow, of Norway, Iowa, secured the champion grade. The Angus competition was rather keener than the Short-horn and Hereford. Escher & Ryan, of Irwin, Iowa, had things their own way, securing all firsts and championships, in both the pure-bred and grade Angus classes. Battles and Miller both pushed this firm rather hard in a number of instances, however.

THE DAIRY SHOW.

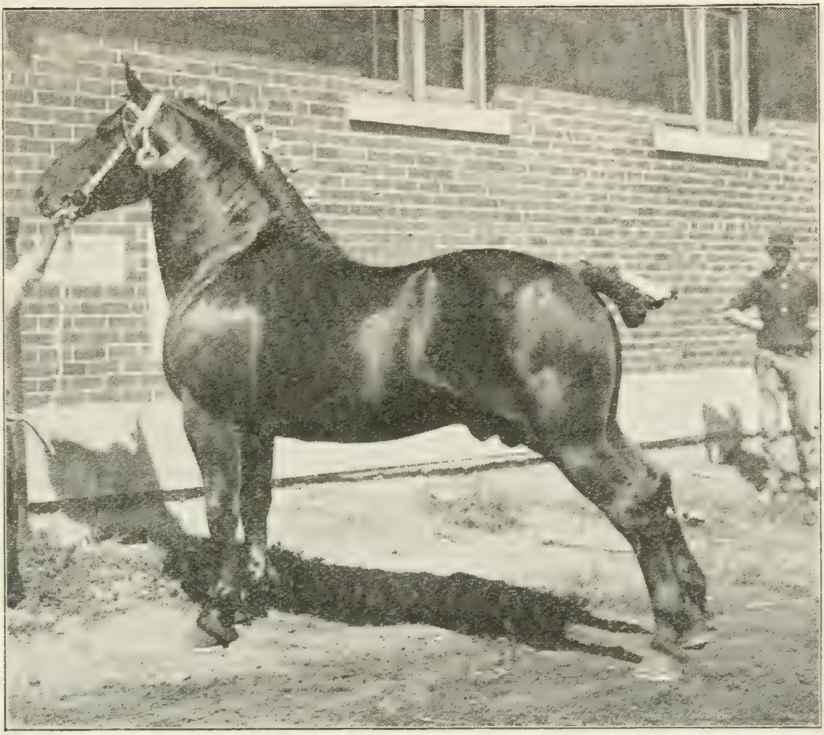
Two things marked a distinct advance in the dairy show over that of last year. One was the entrance of a new breed, the Brown Swiss, into the arena. The other was the great strength of the Jerseys, which this year surpassed in numbers all of the other breeds shown. Last year the Guernsey exhibit was the feature of the show. This year the Guernseys were fully as strong as last, but the Jerseys had nearly doubled their exhibit. A feature of the Jersey show was the strong aged cow and the two-year-old heifer classes, there being twelve animals exhibited in each class. Most of the prizes went outside of the state, to Wisconsin, Minnesota and Nebraska breeders. Iowa more nearly did herself justice in the Guernsey exhibit than in any of the dairy breeds. The five Iowa exhibitors secured a large proportion of the prizes, although A. W. & F. E. Fox, of Waukesha, Wis., were strong in the calf classes. The Holsteins were a disappointment. The show was a slight improvement over last year, but is still quite short of what this breed should be capable of presenting. Competition was confined to Iowa breeders. We suggest to the Holstein breeders that for the sake of the public they should reduce the length of the names of their animals. The Ayrshire is a pretty animal, the well-shaped udder, the turn of the horns, and the general aspect are all attractive. Wisconsin and New York breeders competed for the prizes. In the northeastern states and Canada the Ayrshire has made a good name for itself. The Brown Swiss, shown for the first time this year, attracted considerable attention. They are big, coarse-boned, heavy headed and horned, but apparently have great capacity and a strong constitution. A peculiar mouse color is a distinguishing feature. On very rough pasture land this breed will perhaps make a place for itself. Two Wisconsin breeders had the competition to themselves.

THE HORSE SHOW.

A strong Iowa exhibit was the feature of the horse show. In the four draft breeds Iowa exhibitors secured a much larger portion of prizes than in former years. As a whole, the horse show was not up to the standard of 1910. Several prominent breeders who have come to the Iowa fair in former years were not there. Uniformly good quality, the strength of the Iowa breeders, and strong colt classes competing for the futurity stake were the marked features of the horse show at the Iowa State Fair of 1911.

THE PERCHERONS.

The strong colt and mare classes made the Percheron show very attractive. The aged classes, especially in the stallions, were scarcely up to the high standard of some former years. In the mare classes competition was keen, as was shown by the fact that Amorita, an International champion, was only able to secure second in her class. Probably the most attractive class in the show was the futurity stake for foals of 1910. Iowa and Illinios breeders furnished a large number of very promising colts. The judging of this class aroused some criticism, the second prize colt being con-



CHAMPION PERCHERON STALLION
Iowa State Fair and Exposition, 1911

sidered by a number to be too faulty in the conformation of the hocks and ankles to reach such a high place. Professor Carlyle, of Idaho, did the judging.

THE SHIRES.

The size of the Shire show was disappointing, although the quality was fully up to standard. The Shires have always been recognized as one of our most massive and powerful draft breeds. We are pleased to note from year to year that Shires have continually been improving in quality and action. In the colts especially an advance was seen this year in Shire type and quality. The futurity was won by an Iowa breeder on a son of Surveyor, whom some will remember as grand champion as a colt at the International. This colt not only won the futurity, but was champion American bred stallion. We hope that the day will soon come when home bred Iowa colts will frequently take championships. The prizes were awarded by Robert Ogilvie, of Chicago.

THE CLYDESDALES.

In numbers this breed was weak, although the quality was uniformly good. We would be pleased to see a stronger show of Clydesdales at the

Iowa State Fair next year. Splendid action and uniformly good quality make this breed attractive to all lovers of good draft horses. Robert Miller, of Ontario, made the awards.

THE PONY SHOW.

The pony show was the largest ever seen at Des Moines. Some of the very best specimens in this country were on exhibition. Especially to the children were the ponies attractive. R. P. Stericker placed the awards.

THE MULES AND JACKS.

It would be well if greater emphasis were placed on the mule and jack show at the Iowa fair. The showing this year, though larger than that of previous years, was still small. The prizes were well split up amongst Cassidy & Thompson, T. J. Lee, J. L. Poling, Loren Dunbar, A. L. Foster and F. D. Duff. Cassidy & Thompson secured the championship on Maud. The O. K. Jack and Horse Company was the only exhibitor of jacks.

THE LIGHT HORSES.

The light horse exhibit did not amount to much. In the standard-breds, Peak, of Illinois, secured the bulk of the prizes, although in a number of classes Iowa breeders made quite a strong showing. Again, in the saddle horses the best prizes went to one man, Thos. Bass, of Missouri. Here, again, Iowa breeders did well in several classes. Amongst the Morgans there was a small exhibit of good quality. O. J. Mooers, Wild Rose Farm, J. B. Baker and S. C. Mills divided the bulk of their prizes. Most of the Hackney ribbons went to out-of-the-state breeders.

THE HOG SHOW.

There were forty more exhibitors and 800 more hogs entered in the hog show of this year than that of last. The Poland show was large, with the big, medium and small types all well represented. Prizes were quite well scattered amongst the different types of the breed, small, high quality hogs taking the championships. There was a strong showing of Durocs. Iowa breeders secured the bulk of the prizes. In the Chester Whites the Iowa breeders were again strong. Illinois and Iowa divided honors in the Berkshires, with most of the firsts going to Corsa, of Illinois, although McPherson, Rookwood Farm and other Iowa breeders secured good prizes. The Hampshire showing was good, with Illinois and Indiana securing the most of the awards. Yorkshire swine were shown by B. F. Davidson, Menlo, Iowa, and B. F. Funkle, Redfield, Iowa, the former securing most of the firsts and championships. Tamworths were exhibited by C. C. Roup, Iowa City, Iowa, and G. M. Weighton, Audubon, Iowa, and the former won the largest number of firsts and all championships except junior boar.

THE SHEEP SHOW.

We would like to see a stronger sheep show in Iowa. This year, as last, there were scarcely 500 head shown altogether. Among the mutton breeds there was a strong showing of Shropshires and Oxfords. In connection with both of these breeds Iowa special prizes were offered. The Merinos and Rambouillets were not as strongly represented by Iowa breeders as they should have been, considering the popularity of these two breeds among the sheep men of the southeastern part of the state.

Hampshires were shown by Cooper & Nephews and W. F. Renk, the former winning both championships and the bulk of the firsts.

The Cotswold show was made up by Cooper and Lewis Bros., with honors about equally divided.

Nash Bros. and Alex. Arnold were the Dorset exhibitors. The ribbons were well divided, with Arnold getting both championships.

Rambouillets were shown by King Bros. Co. and F. W. Cook, the former getting the bulk of the awards.

Cook & Son and A. J. Blakely entries made up the Merino showing. The former won all firsts.

The only Lincoln exhibitor was Alex. Arnold.

THE CORN EXHIBIT.

The corn show was larger and of better quality than usual. The last week in August is not a favorable time for a corn show, for the ears must of necessity have been selected from the crop of the previous years. The prizes were awarded by Grant Chapman.

CREAMERY BUTTER EXHIBIT.

The butter entries for the Iowa State Fair of 1911 were rather small in quantity but more than made up what was lacking in the extremely good quality of nearly every entry.

THE POULTRY SHOW.

A larger number of birds shown in the poultry exhibit than in other years was the record of 1911. A cockerel owned by T. L. Rickseker, of Rosedale, Kan., won the sweepstakes for being the best bird among the 2,500 exhibited.

We have never seen the poultry breeders of the state apparently so well satisfied with a state fair as the Iowa poultry breeders were this year. The poultry building had more of the air of a place where poultry business was transacted than that of a badly managed hen house—the impression the building gave visitors a few years ago before Secretary Wilson called attention to the fact that the poultry breeders of the state were not being given the exhibit the importance of the poultry interests demanded.

Local poultry associations took this opportunity of advertising their coming poultry shows. From the big cartoon in the center of the building, that advised all comers of the big state show to be held in Des Moines, January 12th to 17th, the eye might travel around the building, where on all sides placards announced shows all over the state.

Exhibitors were permitted to put up their advertising matter the first day of the fair, thus giving them the full benefit of all the advertising a state fair gives. This is a step in the right direction and we believe did good work—and we understand that sales at better prices were made this year than have heretofore been made. We understand that Professor Lippincott purchased for the college at Ames an exceptionally fine pen of Rhode Island Reds, subject to the approval of the authorities.

We hope that the time will come when our state colleges will have the best birds that money can buy, and sell eggs and stock to the farmers at prices which the latter can afford to pay.

We understand that the first prize White Wyandotte hen changed hands several times during the show.

The incubator and poultry supply companies attracted much attention with their exhibit.

The college exhibit formed an interesting feature of the poultry building. Illumined pictures of prize winning poultry, and poultry houses, model poultry buildings and poultry appliances were among the attractions. The cases showing slices of hard boiled eggs from hens which had been fed cardinal and gold dyes, were a center of interest. We were glad to see an exhibit of dressed poultry. A chicken showing the cut for removing the tendons, thus making the leg more delicate eating; a bird with the wishbone removed, making it possible to cut the breast meat to better advantage, and a boned chicken were among the interesting features of this exhibit.

F. E. Mixa, of the Iowa State College, gave a demonstration in dressing and boning a chicken. Judge Russell gave a lecture on "How the New Standard Affects Barred Plymouth Rocks," illustrated by live specimens. Judge Shellabarger illustrated with live specimens the common defects in the American breeds, and D. E. Hale, of Quincy, Ill., gave a talk on "Money in Standard Breeds for the Farmer."

Another educational feature of interest was the egg-laying contest. Outdoor pens fitted with trap nests were arranged. Each pen contained six hens. The superintendent of the poultry building, who had charge of the contest, called attention to the lesson this contest had taught on the benefits of trap nesting. Mr. E. T. Roberts, who won first prize with a pen of White Leghorns, had been trap nesting for some time; every hen entered in his pen was a proved layer. In the five days his birds laid nineteen eggs. Mr. R. W. Fasken, Colfax, who took second with eighteen eggs, laid by a pen of White Orpingtons, is also a trap nest breeder. The third and fourth prizes, won with twelve and ten eggs, were from birds that had not been trap nested. The individual record of each hen was kept during this contest. This record showed that some of the birds entered in the contest had not laid an egg. It is such dead-beat boarders that rob the poultry breeder of his profits. These non-producers can only be weeded out by means of the trap nest; a lesson which many of the farmers who interested themselves in watching the contest were apparently glad to learn.

The headquarters of the Women's Poultry Association, in a tent at the side of the poultry building, was a popular place with the ladies.

One of the surprises of the fair to the farmer was the comparatively small number of Barred Plymouth Rocks on exhibition. The Plymouth Rocks have for so long been considered the farmer's fowl that we miss them at a farmer's fair. Some well-grown young stock was shown, but there was nothing so exceptionally fine as to attract especial attention.

The Rhode Island Reds were the largest class. More good birds of this breed were shown this year than have ever been brought out before at a fall show. The first single comb cockerel was the bird of the show, taking sweepstakes cup as the best cockerel in the show. The coloring of this bird was almost perfect, showing an ideal wing with uniform color in wing coverts, and a tail without a touch of foreign color. He had good shape and carriage, and his under-color was a rich, deep red to the skin. The first pullet was a bird of remarkable quality. The second best cockerel of the show was a White Orpington, a bird which crowded the first cockerel very close for sweepstakes.

There was a good showing of Black and Buff Orpingtons, the Orpingtons as a whole ranking next to the Reds in numbers. White Leghorns were also much in evidence; the class being larger, we understood, than in any previous year.

The Wyandotte class was not large, but some good birds were shown. All the American breeds were well represented, and the usual number of fancy breeds and varieties attracted the attention of visitors.

Th turkeys were out in larger numbers than last year, which might have been expected, as this has been a good year for turkeys generally. The Indian Runner ducks are evidently increasing in popularity; some good Pekins were also shown.

The old birds, as is always the case at this time of year, were in poor shape for showing, owing to the moult, and the inevitable breaking of feathers during the season in the breeding pen, but the young stock looked fine, the birds all appeared thrifty, and everything promises well for a successful season to the Iowa farmer in the poultry yard.

Farmer and Breeder, Sioux City.

Will Iowa crops be much smaller this year than usual? If so, will the shortage have an appreciable effect upon the business the farmer will do next year? Will they postpone improvements for a season? These are questions that are being asked frequently at this time. Manufacturers and dealers are especially interested in these matters, fully comprehending that they cannot prosper unless the farmer is also prosperous. If crops are below normal this fact was not reflected at the fair this year. If the farmers are expecting to curtail expenses or postpone previously planned improvement this, too, was not in evidence judging from the attendance and interest manifested in the exhibits. On the contrary, the farmers seemed to be more alive than ever and more interested in the show as a whole. It seemed as though they were redoubling their efforts in hunting for suggestions as they went about asking questions.

What a magnificent exhibition the Iowa State Fair has become! What a strong influence it wields in the development of our agricultural resources! It is by far the greatest agricultural educational factor in the state, for it reaches so many people. It exerts its influence not only on those who annually or occasionally attend its exhibitions, but also indirectly upon those who stay at home. The state has expended many thousands of dollars in building up this fair, but it can spend many thousands more to advantage, and this it will undoubtedly do.

The attendance this year broke all previous records. The total attendance was 270,000, as compared with 220,000 last year. Cash receipts totaled $190,000 as compared with $157,000 a year ago. At the close on Wednesday receipts had already been large enough to cover all expenses of the show. On the last two days receipts totaled $40,000, and this was net profit. The weather was ideal throughout the week; this undoubtedly had much to do with the record crowds that poured through the gates from day to day. On Tuesday the attendance amounted to over 62,000; this was 3,000 above the record day in 1909.

The board of directors and the officers of the fair, including Acting Secretary Corey are to be congratulated upon the splendid management of the fair this year. Exhibitors and visitors alike spoke of the uniform courtesy everywhere extended. When well-built machinery is properly oiled and taken care of it runs smoothly, and then it appears as though anyone could manage it; but let something get out of repair and an expert is required to put it in order. The Iowa fair is evidently managed by experts or the machinery could not continue to run so smoothly. Mothers remarked that the fair was clean; they rejoiced. Many brought their children and were grateful for seeing no gambling or games of chance. A distinct improvement was seen in the character of the side shows; more attention was being directed toward matters having educational value. The ladies, for example, listened to daily lectures on domestic science given by members of the Iowa State College in the college building. Several meetings were also held for the purpose of interesting men and women in organizing country clubs for the purpose of promoting better rural social conditions. For the most part these meetings were well attended.

One notable meeting was held for the purpose of organizing a crop improvement association. This meeting was called by Mr. Wells, secretary of the Western Grain Dealers' Association. Representatives from several city commercial clubs, bankers associations, various manufacturing interests, grain exchanges, took part in the deliberations and expressed willingness to give financial assistance to any practical project having for its object the encouragement of movements looking to the use of better farm seeds. Prof. R. A. Moore, of Wisconsin, who has done some very valuable work in originating improved varieties of grains in Wisconsin and of distributing them among the farmers all over the state, had been secured to tell what has been accomplished in his state. Professor Moore delivered a most forcible address and showed in a striking manner what he has accomplished during the past 13 years. Briefly his plan is as follows: The crop department of the experiment station is constantly busy breeding and improving the common farm crops, such as oats, wheat, barley, corn, alfalfa, clover, etc. When it has developed a superior variety the seed is multiplied till 200 or more bushels have been obtained. If the variety still seems promising, enough seed is sent to members of the Wisconsin Experiment Association—to be described later on—who test it and compare its yield with the old varieties in use. If the result is favorable each member of the association saves all the seed the acre produces and then plants as large a field as possible the following season. The station then helps these seed growers to dispose of their surplus stock at prices not to exceed twice the market value of ordinary grain. Much of this good grain is sold to neighbors and thus old run out varieties are gradually displaced by new and better ones.

The Wisconsin Experiment Association is an association composed of young men who have attended the Wisconsin Agricultural College or any other agricultural colleges in the country. They are men who have studied grain breeding and development, and are, therefore, in position to do intelligent and effective work. At present the association contains about 1,600 members. Two varieties of corn have already been distributed among these co-operators or scientific seed breeders. One variety is especially valuable for the northern part of the state and the other for the southern portion. Superior varieties of oats and barley have also been introduced and as a result the average yields of grain for the state as a whole have been materially raised. The new varieties of corn yield from five to ten bushels more per acre than the old ones. The same is also true of the improved varieties of oats, barley, and wheat that are already quite generally grown over the state.

Last year, for example, a new variety of barley was distributed among 1,500 co-operators. Next year these men will produce enough grain of this new variety to furnish seed for the whole barley acreage in Wisconsin and during the year following Wisconsin will produce enough seed barley of this new strain to plant the world's entire barley acreage. Commercial seedsmen are enlisted to aid in the work of distribution.

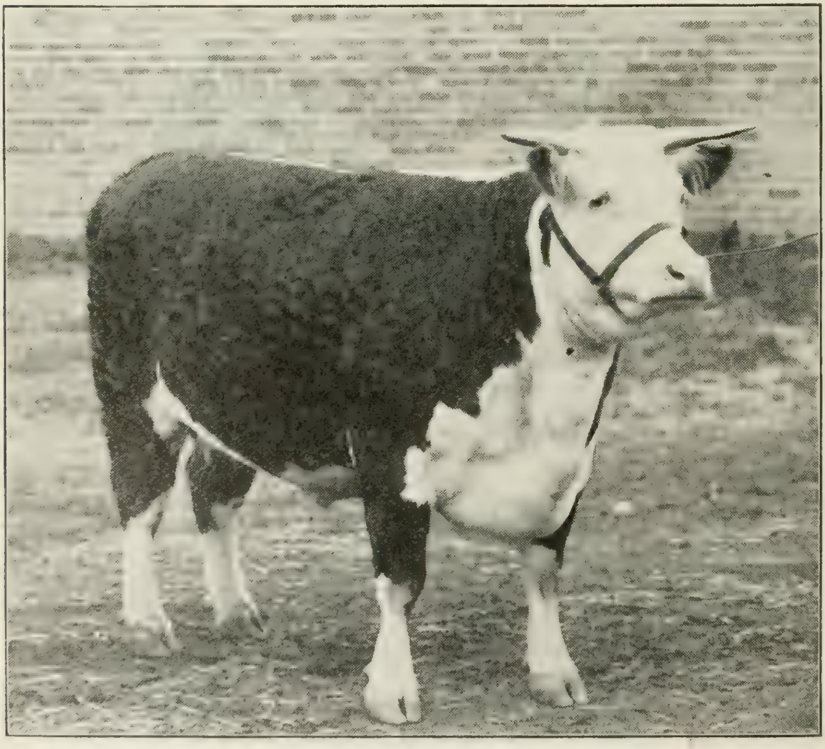
So far these Wisconsin seed growers have grown and harvested their seed in accordance with instructions furnished by Professor Moore, who is secretary and manager of the association. In consequence of this, a uniformly high grade of seed has been produced which is finding ready sale not only in Wisconsin and near-by states, but also in many foreign countries. Unless other states take this work up in the near future Wisconsin will soon be recognized as the greatest high-quality seed-producing state in the Union.

Among the other speakers who addressed the meeting was Mrs. Lucas of Wright County, Iowa. Mrs. Lucas has done much effective work in speaking at farmers' institutes, rural clubs, county fairs, etc. She has also been instrumental in getting agricultural subjects introduced into a number of country schools and high schools. Mrs. Lucas spoke very enthusiastically about the great benefit that might come to Iowa agriculture through a well organized crop improvement association.

After some discussion as to how the crop improvement association should be organized the consensus of opinion was to the effect that it should be patterned after the Wisconsin Experiment Association. A committee was then appointed to draft a constitution and outline a plan of organization.

LIVE STOCK.

The Iowa State Fair has for years been the largest live stock show in the country. It is looked upon as standard for the state fairs. An animal



CHAMPION HEREFORD COW
Iowa State Fair and Exposition, 1911

that wins a championship at the Iowa fair usually also becomes champion at the great International Live Stock Show held in Chicago in the fall. In some respects the live stock exhibits this year were superior to those of a year ago. There were more exhibitors and also a larger total number of animals.

The horse show was not quite so large as it was a year ago. The total number was 1,016 as compared with 1,126 last year; these figures include ponies and mules. There were 140 horse exhibitors as compared with 101 last year. Of cattle there were 1,044 as compared with 858 a year ago and there were also 20 more exhibitors this year than last. In numbers the Short-horns fell a little below last year, but there were more Herefords than usual. The Hereford show was immense. The entries amounted to 237 head as compared with 204 Short-horns, 108 Aberdeen Angus, and from 36 to 96 of the other breeds of beef and dairy cattle. The dairy show was by far the largest that has ever been held in Iowa. The Jerseys were especially strong; they numbered 96 head as compared with 52 a year ago, and the Guernseys 61 as compared with 53 last year. The quality of all the stock was uniformly high. There were few tailenders to be seen.

The sheep exhibit was also very strong. The total number of entries was 680. The Shropshires, of course, were in the lead, yet nine different breeds were on the grounds. The swine pavilion was filled to overflowing and the number of entries practically the same as last year. Breeders reported a brisk demand for hogs and in general were exceedingly well satisfied with the business outlook for the coming sale season. The judging pavilion was unusually well filled, especially on Tuesday, Wednesday, and Thursday. Judging from the attention which the public is giving to the placing of the live stock awards, enthusiasm over pure-bred stock is rapidly growing in the State of Iowa.

The new feature of the futurity stakes for colts was a great success. These stakes, including cash and the cash value of cups, medals, etc., amounted to $3,461—the largest sum ever offered in the world for an exhibit of draft colts. This futurity plan was originated by J. H. S. Johnstone of the Chicago Daily Live Stock World. This journal deserves a great deal of credit for the work it has done in thus encouraging the draft horse breeding industry. Mr. Halliwell, publisher and proprietor, has not only given Mr. Johnstone his moral support, but he also donated a considerable sum of prize money. The breeders owe the Chicago Daily Live Stock World their sincere gratitude. The Percheron nominations alone numbered over 140; 40 paid the full entry fees and 28 colts appeared in the ring. The Shire, Clydesdale and Belgian breeds were also well represented. It was generally remarked that these colts made the finest display that has ever been seen at any state fair. The breeding associations, the Iowa State Fair management, and several of the large breeders of horses offered money prizes for this futurity show. It is to be hoped that this exhibition may be continued, but owing to the large amount of work required to get a show of this kind under way it is doubtful whether it will be attempted next year.

AGRICULTURAL AND HORTICULTURAL DISPLAYS.

While the Iowa State Fair leads in live stock, it falls woefully behind in the line of grain and general farm exhibits. More attention ought to be directed toward encouraging county displays of farm products with special reference to the value of improved seed, of better methods of farming as shown by rotation of crops and conservation of soil fertility in general. Iowa's live stock industry is important; her wealth is largely represented in her live stock; yet the more grain we produce, the better we learn how to build up rich pastures and meadows, the more we come to realize the importance of crop rotation not only as an aid in the maintenance of soil fertility, but also as a means of fighting insect pests and fungus diseases, the more live stock we can maintain and the greater will be our profits. It is just as important that the Iowa farmer should improve his ordinary grains and grasses and forage crops through breeding and selection as it is that he should improve his live stock. The Iowa State Fair should exert itself to bring out this feature more prominently than it has ever done before. It is high time that this were done. Iowa is the greatest live stock state in the Union, but there is no reason why she should not also be the greatest producer of high-class crops of all kinds.

The apple show in the horticultural building was representative of the state; it did the industry credit, and in general the horticultural display was very satisfactory.

THE COLLEGE BUILDING.

As has been the case for several years, the Iowa State College occupied one entire building in which exhibits were made by several departments of that institution. Prof. M. L. King of the agricultural engineering department was busy explaining about the Iowa silo, which is a silo built of hollow clay blocks. Several hundred of these silos have been erected throughout the state this year.

The dairy division of the extension department of the college showed some interesting facts that have been gathered in the districts where cow test associations have been formed. Five test associations are in existence in Iowa and they include about 1,800 cows. A cow test association ordinarily has 26 members, each of whom is an owner of 10 to 20 cows. These members pay into the treasury of the association $1 a year per cow in their herd. They then employ a man to visit the farm of each member of the association once a month. This man is known as the "tester." He weighs the milk of each individual cow and tests it for butter fat. He also weighs the feed each cow consumes and thus makes an estimate of the performance of each individual in the herd during the month. The state pays part of the expense of the man who does the testing. In two communities representing 688 cows, or 46 herds, it was found that 200 of the best cows produced an average of 301 pounds of butter per year at a feed cost of $36 per head. In other words, they showed a net profit of $52 per head. Similarly, 200 of the poorest cows in these two associations produced an average of only 176 pounds of butter a year at a feed cost of $30 per head. In other words, these cows showed a net profit of $20 as compared with $52 for the 200 best cows. These facts show in a general way what the test associations are doing. They are discovering the poor cows, and as a result the farmers are rapidly improving their herds by selling the poor individuals and putting better ones in their places.

Twentieth Century Farmer, Omaha, Nebr.

Iowa's Annual Live Stock Show and Agricultural exposition was held last week on the Iowa State Fair grounds at Des Moines. This exploitation of the skill and ingenuity of man in the promotion of excellencies in animal creation, in the demonstration of possibilities in soil producton and in the bringing to the attention of humanity in mechanical arts the wondrous faculty of inventive genius combine in completing one of the greatest educational efforts that has ever been assembled under the management of state fair enterprise. The Iowa State Fair has grown within the last few years into an immense aggregation of exhibition interests; its improvement and development of grounds along lines of exposition convenience, advantage and permanency are the wonder and admiration of its oldest patrons and most loyal supporters.

PLACE FOR OLD GRAY-HAIRED VETERANS.

Iowa was fortunate in securing a state fair location so admirably suited by nature for the purposes of building an ideal exposition grounds and equipment for carrying on such an enterprise. The wooded hill lands, besides their use for state fair buildings, dotted here and there over it, has a most beautiful location designated "Iowa Grand Army Encampment." This tract is occupied each annual fair by the members of the Grand Army posts of the state and visiting comrades from all parts of the country. Thousands of these old gray-haired veterans congregate here for their annual visit, speech-making and picnic. This is one of the most impressive gatherings representing patriotic loyalty and sympathy for American institutions that one will ever have an opportunity to enjoy.

A division of the timber section of the hill land is surveyed into lots, blocks, streets and alleys and rented to persons from a distance who wish to bring their families to the fair, camp and stay for a pleasant outing during the week. A nominal charge is made, tents erected, numbered, etc., and soon the beautiful white city springs into existence and a most pleasant and profitable season is enjoyed by the farmer and his family. Hundreds of families came from 50 to 150 miles this year in their autos and established residence on the tented hill, under the shade of the towering oaks and elms.

PERMANENT WALKS ALL OVER GROUNDS.

Hundreds of thousands of dollars have been expended on these fair grounds in the matter of improvement for the comfort and convenience of its visitors in getting about over the grounds, from one building to another and from one section of the ground to another. Sidewalks are now so abundantly supplied that one may walk all day on cement or cinder pavement and be free from the annoyance of mud in case of rain.

One of the greatest fair grounds improvements in the United States is the Iowa State Fair hog barn, two or three times as large as any other state would have occasion to use under the most encouraging conditions of swine industry. It exceeds the demands of Iowa up to the present date, and Iowa boasts of an annual average of more than 3,000 hogs on exhibition at its state fair.

NEW MACHINERY HALL.

The next feature of strong demand with this big fair was a place to house its immense acreage of farm machinery that was obliged to set outdoors in the open or under tent. The building of machinery halls for many years helped to satisfy the requirements of the best exhibitors. Then there came a period that the big machinery hall seemed the only recourse for the fair management. This year a six-acre lot was surveyed, platted into blocks and streets and a fine steel building erected on this, covering one-half the lot, three acres. This one-half was completed for the 1911 fair at a cost of about $85,000, the other half will be added to it next year, thus completing a six-acre steel building, exclusively for machinery, implements, tools, etc., commonly found in state fair machinery department displays. The magnitude of this structure cannot be appreciated until one steps inside the present three-acre building. The machinery exhibit this year was larger and better in most respects than ever before. There were more exhibitors, many never having previously attended this fair.

The grandstand at the race track, now experiencing its second year in service, is one of the highly appreciated structures.

AGRICULTURAL HALL ATTRACTS CROWDS.

The Agricultural hall is a substantially constructed brick building capable of holding an immense display of mixed exhibits for which it is used. It contains the agricultural products display, the horticultural exhibit, embracing all fruits and appliances pertaining to the fruit crop industry; the floral exhibit, the bee and honey display, the dairy exhibit, butter, cheese, cream separators and all that belongs to the operation of milk or butter handling. Scores of other specialties are added to the exposition interests of this building, until it becomes the place of entertainment for many people and usually holds a crowded house.

In the fruit industry Iowa has never had a better display at its state fair. The apples were not as large, uniformly, as in other years, due to overbearing and lack of moisture in the ground. M. J. Wragg, an authority on Iowa's fruit interests and a large grower, says:

"The state has not had for five years as large a crop in bushels of apples. There has been practically no insect damage. This may be on account of no fruit last year and the excessively dry conditions this year, not favoring the propagation of the insect; at all events, wormy fruit is very scarce."

Mr. Wragg had 142 varieties of apples on exhibition. In plums the state has the largest yield ever known. The exhibition was made from the American varieties mainly.

A SORT OF IOWA BURBANK.

A very remarkable exhibit in the fruit line was that of B. A. Mathews of Knoxville, Iowa. Mr. Mathews is a sort of Burbank in the experimentation and propagation of fruits. He claims to have produced approximately 300 kinds of pears, had on exhibition 150 kinds; these he is growing for the commercial trade and recommends them to the public. He has accomplished some wonderful things in his fruit breeding system. He has a very fine-appearing apple which he has acquired by taking the little, old, sour wild crabapple and by means of cultivation and the selection of what he terms sprouts, produced by these methods, used as a new breeding basis, acquired an apple of several times the size of the original, and one which will go into the lists of varieties to be used in orchard industry. He has butternuts, hickory nuts, red haws and many other things which he has entirely transformed in appearance and quality from the original by his system of breeding. He deplores the fact that there are not enough of other cranks, as he terms himself, to follow him and take up this work where he is obliged by his age to leave off.

LIVE STOCK THE CROWNING FEATURE.

The live stock feature of the Iowa State Fair is its crowning event. No other division or combination of interests could rise in the minds of the people in exhibition importance with that of live stock. Live stock is the recognized power behind agriculture; it is the key that unlocks the treasures of wealth as they come from the soil. Live stock is the medium through which the farmer finds a market for practically everything the land produces. The farmer estimates the value of his crops as he counts the cash from the sales of the horses, cattle, sheep and swine.

Live stock in all its departments showed a distinctive advance over former years. In horses the horse judge, the horse fancier and the fellow who talks horse all agreed that this fair was an improvement over former years in the general classification of horses represented. The tendency is to keep up in both numbers and quality. The various means that are coming into use to displace the horse as a beast of burden has not caused any special alarm among horse raisers, horse breeders and horse dealers. There seems to be the usual demand for the good horse, and horse fanciers are not decreasing. The Iowa State Fair was an example of the present-day interest in the really good horse of the various breeds.

CHAMPION ABERDEEN ANGUS BULL
Iowa State Fair and Exposition, 1911

The cattle division was never so strong; 1,044 entries were made and only two exhibitors failed to be present. This is by far the largest exhibit of cattle the Iowa fair has ever entertained. The quality and general exhibition finish of these animals was pronounced the best that has ever been brought to these grounds. It would be unfair to single out any one breed as having advantage in this show. All breeds were creditably represented. The Herefords were commented on as being the best lot of show cattle of this breed that has ever been shown in the state, and having the most uniformly good show specimens that have ever appeared on a state fair grounds anywhere. The excellence in quality of both the beef breeds and dairy cattle was a common expression at the ringside.

The swine division contained 2,900 hogs and was one of great interest, and at all times crowded with visitors. The usual interest in the hog was centered about the standard breeds, which at this period in the swine history of the country does not stop with the Poland-China, the Duroc, the Chester White and Berkshire, but extends to the Hampshire, the Yorkshire and Tamworth. This division presented an air of activity, interest and a little current of rivalship in breeds.

THREE DISTINCT POLAND-CHINA TYPES.

The most pronounced difference of opinion on merit of hog seemed to exist with the breeders of the Poland-China, whose ideas of type varied from the extremely large hog down to the small-boned hog, thus furnishing room for three distinct types, so far as size was concerned, the big Poland-China, the medium and the small type. This matter of distinction, governed by size, has become so pronounced with the breeders that it is looked upon as a matter of injustice for these three types to be shown together and have justice meted out to the exhibitors. There can scarcely be a doubt that fair managements must provide some relief for this class of breeders. It is a condition that exists; it is established among breeders; it is not fair to ask the breeder of the small type to surrender his ideal and take the large type; neither would it be fair to ask the large type breeder to throw aside his ideal of propriety and hog advantage and take up the small type. The medium type seems to offer no better solution to the extremes, and the result is the three types—large, medium and small—are contesting against each other in the same ring, same class, same lot, with the contest being in the selection of a judge that favors one or the other of these types to the exhibition disadvantage of the others. The providing of more money for the swine division and the extension of the premium list so as to cover, in separate classification, the three types of hog, with a judge for each type corresponding in his ideas with the type he is to judge is the solution. This is a condition that exists and cannot be changed, but can be accommodated by the expense of adding two more lots in the swine division of the premium list. It will not injure the fair; it will have the opposite effect and will aid in the promotion of the hog industry at large.

POPULAR HOG WITH PACKERS.

A very interesting feature in the swine department was the astonishingly large display of the Hampshire hog. The growth in popularity of this breed might be indicated by its state fair history at Iowa. In 1907 there were exhibited three head; 1910, 200 head; 1911, 350 head, with Iowa, Kansas, Missouri, Illinois and Indiana represented. There were fifteen herds entered at the Iowa fair this year. They are not a new breed of hogs; have been in the United States since 1830, but have not attracted attention of the packers until 1904, since which time they seem to be receiving endorsement as a popular hog with the packer.

STRONG SHEEP DEPARTMENT.

The sheep department was larger and better than usual. This division is receiving a strong endorsement from among the Iowa farmers. The breeds represented were Rambouillet, American, Delaine, Merinos, Hampshires, Shropshires, Oxfords, Southdowns, Cotswold, Leicesters, Lincolns, Dorsets and Cheviots. The quality was good, contests in the show ring strong and liberal numbers on exhibition, there being above 500 sheep exhibited. The inquiry was good and exhibitors seemed pleased with the outlook for sales of breeding stock.

The poultry division of the Iowa fair has shown great improvement both in quality of fowls and numbers exhibited. The new cooping of the poultry hall has added greatly to the display. Other fairs should adopt the uniform cooping of their poultry exhibit; it gives the whole exhibition feature an entirely new and dressed-up appearance.

The Prairie Farmer, Chicago.

The last week of August was school week for Iowa farmers. Few of the many thousands who took in the sights of the state fair at Des Moines may have regarded their sojourn in this light, yet in view of the unlimited amount of practical information obtainable on all branches of farm practice, the Iowa fair may be said to be one of the greatest schools for practical farmers in existence.

This was the idea unconsciously expressed by one Hawkeye farmer when he slapped President Cameron on the back at the close of the fair and said: "Well, Charlie, you've got a mighty good fair and I'm glad I came. I've brushed up against some new things, got a hatful of valuable ideas and I'm going home prepared to look my problems square in the face."

It was give and take all week with exhibitors and visitors. Plied with questions from all sides by farmers hungry for information that would help them to farm better and live more comfortably, exhibitors became instructors. Possibly a few told more than they knew, but in the end the inquirer gained the information that he was after. The diffident farmer forgot his diffidence and joined enthusiastically with his fellow farmers in the search for knowledge. Silo demonstrators were besieged, alfalfa "profs" quizzed, prize-winning animals scrutinized, labor-saving machinery inspected and between times glimpses were taken at the airships. Such was the program of fair visitors.

OBJECT LESSONS IN LIVE STOCK.

The liberal inducements which have been extended breeders of live stock to exhibit at the Iowa fair have made that fair a great battleground of the breeds, thereby presenting an unsurpassed opportunity for the study of approved types of animals in every important breed. No better show of draft horses was ever brought together in this country than that seen at the Iowa fair this year. Percherons and Belgians led in numbers, followed by Shires and Clydes, all displays being notable for the individual excellence of the animals shown. The showing made by the classes in the National Breeders' Futurity, to which only yearling home bred horses were eligible, brought out a remarkable collection of youngsters in all the four draft breeds and demonstrated conclusively that the American farmer can raise as good horses as any one if he will give his foals liberal treatment.

Breeders of Hereford cattle made the best exhibit of "white faces" ever witnessed in an American show ring, according to the old timers, and for the first time in many years overshadowed the popular "red, white and roan." The two-polled black herds, the Angus and Galloway, were well represented by perfectly fitted herds, while the Polled Durhams brought up the rear. Beef cattle interests are undoubtedly looking up in the middle west if significance can be attached to these facts.

Time was when a specimen of the special purpose dairy breeds was an unfamiliar object at the Iowa fair, but of late years this condition has changed materially and the missionary work done by breeders from Wisconsin and other eastern states is bringing results. Five special dairy breeds were on exhibition for the inspection of fair visitors, the Guernsey leading in numbers. The other breeds stood as follows from the same viewpoint: Holstein, Jersey, Ayrshire and Brown Swiss. Several herds of Red Polled cattle afforded a good study of dual purpose types.

Swine breeders came near breaking all previous records from a numerical standpoint, there being in the neighborhood of 2,700 head in the pens, of which number Duroc-Jerseys comprised approximately one-third. All breeds made a creditable showing, the Berkshires coming up better than ever before both in numbers and quality. In the sheep barns Shropshires, Oxfords and Hampshires predominated, with a significant showing of long wools and several other medium wool breeds to make this department well balanced.

SOLUTION FOR BALANCED RATION.

If the corn belt farmer adopts the plan suggested at the fair for feeding his live stock he will build a silo and grow alfalfa. Many farmers have delayed the erection of a silo, not being able to decide which type will best fill the bill. A study of the several types exhibited led the majority to the conclusion that there is no best type, and that the failure to obtain a good supply of silage is due principally to improper construction or filling. This was the lesson taught: Get a silo, two if possible, one for winter and the other for summer feeding. The best type is the one that suits your fancy and pocketbook. Then be sure that it is put up right.

A large map of Iowa, showing the distribution of alfalfa and exhibited by the extension department, offered much encouragement to farmers who have been unable to secure a stand of this valuable protein feed. It showed that alfalfa is being grown successfully in practically every county. Failures to secure a stand where seed is sown in August on a well prepared seed bed are growing fewer and any farmer who will persist in the culture of this forage crop will succeed sooner or later.

TEN-HOUR DAY IN SIGHT FOR FARMERS.

The 14 and 18-hour day is still the bugbear on many corn belt farms and is undoubtedly causing many farm boys to go to the city and farm girls to exclude the ambitious young farmer from their list of matrimonial prospects. The only practical remedy in sight for overworked farm folks seems to be more labor-saving machinery and devices. Farm homes and buildings can be made more convenient and comfortable than at present and many helpful ideas were to be picked up along this line from the exhibits sheltered in the new $75,000 machinery building in tents and private floor space. Especially was big machinery in evidence and through its use many farmers will contrive in the future to lighten farm labor if not shorten the hours of the ordinary work day.

FARM CO-OPERATION BOOSTED.

Two important meetings were held during the fair which point to a growing interest in Iowa for farm co-operation. One of these meetings, at which delegates from twenty or more farmers' clubs were present, culminated in the formation of a state organization for encouraging and aiding the organization of clubs throughout the state. While the grange is moving ahead there are communities which are more favorable to a less formal organization such as the farmers' club.

The other meeting was for the purpose of perfecting an organization for promoting the breeding of beef cattle in Iowa instead of relying on the range for unfinished beef, and it is believed that such an organization will insure the continuance of the state as the greatest beef cattle center in the world.

FARMERS ENDORSE FAIR MANAGEMENT.

The Iowa idea of running a state fair that it may contribute the greatest amount of good to the greatest number of people has met with the unreserved approval of corn belt farmers. No fair is so little affected by the personal interests of individuals. The indictment that our state fairs are run for personal advancement cannot be charged against the Iowa fair. And the best fair-going population of the state know this and give the fair most loyal support. Going back to 1905 it is to be noted that the attendance was a trifle over one-half of this year's attendance, or 162,000. Each succeeding year, with the exception of one, has shown a big increase. In 1908 the attendance jumped to 218,000 and this year conservative estimates place the attendance at approximately a quarter of a million, and this success was realized with no large city contiguous to swell admissions.

AWARDS

IN

LIVE STOCK DEPARTMENTS

IOWA STATE FAIR AND EXPOSITION
1911

HORSE DEPARTMENT.

SUPERINTENDENT ....C. F. CURTISS, Ames.

PERCHERON.

EXHIBITORS.

Dan Augstin, Carlock, Ill.; Berkestrand Bros., Cambridge, Iowa; F. Berkey & Son, Ankeny, Iowa; F. B. Bowman & Sons, Boone, Neb.; Jno. A. Buswell, Bradford, Ill.; Robert Burgess, Wenona, Ill.; W. S. Corsa, White Hall, Ill.; Crawford & Griffin, Newton, Iowa; Wm. Crownover, Hudson, Iowa; C. B. Dannen & Sons, Melbourne, Iowa; Loren Dunbar, Earlham. Iowa; Ethelwold Farms, Mondovi, Wis.; Finch Bros., Joliet and Verona, Ill.; Peter Hopley & Son, Lewis, Iowa; Lee Bros., Mitchellville, Iowa; Maasdam & Wheeler, Fairfield, Iowa; Frank McDowell, Spencer, Iowa; H. G. McMillan & Sons, Rock Rapids, Iowa; Geo. W. Murray, Estherville, Iowa; M. J. Nelson, Cambridge, Iowa; Rookwood Farm, Ames, Iowa; David Roth, Williamsburg, Iowa; W. W. Seeley, Stuart, Iowa; W. T. & U. I. Sinnard, Carlisle, Iowa; E. A. Taylor, Anita, Iowa; Truman's Pioneer Stud Farm, Bushnell, Ill.; H. P. Wilkinson & Bros., Mitchellville, Iowa.

AWARDS.

JUDGE....................PROF. W. L. CARLYLE, Moscow, Idaho.

Stallion Four Years or Over—First, Garage 71335, Robt. Burgess & Son; second, Gillott, 52018 (69846), Maasdam & Wheeler; third, Halicte 61429, (76422), Robt. Burgess & Son; fourth, Guy Lussac 61947 (69946), M. J. Nelson; fifth, Perfection, 54441, F. Berkey & Son.

Stallion Over Three, Under Four—First, Indelicat (78738), Robt. Burgess & Son; second, Iviers, 76682 (79857), Truman's Pioneer Stud Farm;

third, Indigene (74139) 79364, H. G. McMillan & Sons; fourth, Irrate, 70272 (81056), M. J. Nelson; fifth, Ibycus, 76676 (80603), Truman's Pioneer Stud Farm; sixth, Ardelle, 67595, H. G. McMillan & Sons.

Stallion Over Two, Under Three—First, Juridique (85420), Robt. Burgess & Son; second, Kallerman 2nd 65607, H. G. McMillan & Sons; third, Jahir, 77981 (89461), Truman's Pioneer Stud Farm; fourth, Jamblier 85999, Robt. Burgess & Son; fifth, Jaloux 86552, Robt. Burgess & Son.

Stallion Over One, Under Two—First, Kerouly (93918), Robt. Burgess & Son; second, Masterpiece 78132, H. G. McMillan & Sons; third, Agitator 77533, H. G. McMillan & Sons; fourth, Cartel 77998, Geo. W. Murray.

Stallion Foal—First Comet 77989, M. J. Nelson; second, Climax, Frank McDowell; third, Cambridge Favorite 77990, M. J. Nelson.

Stallion Three Years or Over, Bred by Exhibitor—First, ————, W. W. Seeley; second, Ardella 67595, H. G. McMillan & Sons; third, Gado 67586, H. G. McMillan & Sons; fourth, Crockette 50132, Frank McDowell.

Stallion Under Three, Bred by Exhibitor—First, Masterpiece, H. G. McMillan & Sons; second, Romane 78240, Dan Augstin; third, ————, Finch Bros., Joliet and Verona, Ill.; fourth, Othello 70517, H. G. McMillan & Sons; fifth, Iowa Prince 70435, C. B. Dannen & Sons.

Mare Four Years or Over—First, La Belle 34982, H. B. McMillan & Sons; second, Amorita, Maasdam & Wheeler; third, Favorite 70281 (87784), W. S. Corsa; fourth, Della 65279, W. S. Corsa; fifth ————, H. G. McMillan & Sons.

Filly Over Three, Under Four—First, Imprudente 70600 (81933), Robt. Burgess & Son; second, Babine 66215, T. W. Bowman & Sons, Boone, Neb.; third, Hester 69119, Maasdam & Wheeler; fourth, Ichtargane (80886), Robt. Burgess & Son, Wenona, Ill.

Filly Over Two, Under Three—First, Jarnage 87521, Robt. Burgess & Son; second, Jante 87190, Robt. Burgess & Son; third, Janette 70895, H. G. McMillan & Sons; fourth, Lady Perfection 68287, C. B. Dannen Sons.

Filly Over One, Under Two—First, Corvous 76707, J. A. Buswell; second ————, J. A. Buswell; third, Mylette 78133, H. G. McMillan & Sons; fourth ————, J. A. Buswell.

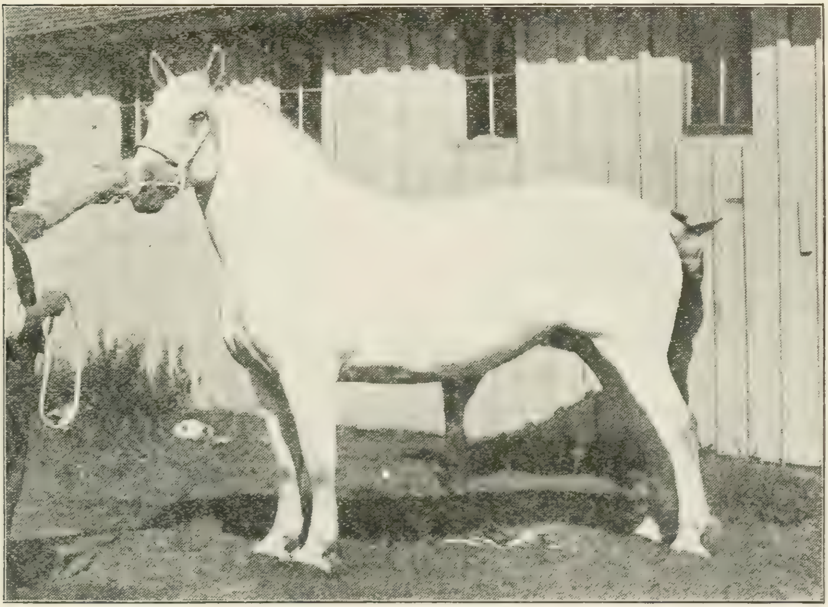
Mare Foal—First, Maude Carnot, W. S. Corsa; second, C. B. Dannen & Sons.

Mare Three Years or Over, Bred by Exhibitor—First, Amorita 61314, Maasdam & Wheeler; second, Rosine 65953, H. G. McMillan & Sons; third, Ailleen 40945, H. G. McMillan & Sons; fourth, Hester 69119, Maasdam & Wheeler; fifth, Crickette 50133, Frank McDowell, Spencer, Iowa.

Mare Under Three, Bred By Exhibitor—First, Corvous 76707, J. A. Buswell; second, Janette 70895, H. G. McMillan & Sons; third, Lady Perfection 68287, C. B. Dannen & Sons; fourth, Eveline 68706, H. G. McMillan & Sons.

Champion Stallion—First, Juridique 85420, Robt. Burgess; second, Garage (71335), Robt. Burgess & Son.

Champion Mare—First, LaBelle 34982, H. G. McMillan & Sons; second, Imprudente 70600 (81933), Robt. Burgess & Son.



GRAND CHAMPION PERCHERON MARE
Iowa State Fair and Exposition, 1911

Champion Stallion Owned in Iowa—First, Gillott 52018 (69846), Maasdam & Wheeler; second, Indigene 74139 (79364), H. G. McMillan & Sons.

Champion Mare Owned in Iowa—First, Perfection, H. G. McMillan & Sons.

Get of Stallion—First, J. A. Buswell; second, H. G. McMillan & Sons; third, C. B. Dannen & Sons.

Produce of Mare—First, H. G. McMillan & Sons; second, Frank McDowell; third, C. B. Dannen & Sons.

Grand Display, Five Animals Bred and Owned by Exhibitor—First, H. G. McMillan & Sons; second, J. A. Buswell; third, C. B. Dannen & Sons.

Five Stallions Owned by Exhibitor—First, H. G. McMillan & Sons.

SPECIAL PRIZES OFFERED BY PERCHERON SOCIETY OF AMERICA.

Stallion Three Years or Over, Bred by Exhibitor—First, French Premier 53995, W. W. Seeley; second, Ardella 67595, H. G. McMillan & Sons; third, Gado 67586, H. G. McMillan & Sons; fourth, Crockette 50132, Frank McDowell.

Stallion Under Three, Bred by Exhibitor—First, Masterpiece 78132, H. G. McMillan & Sons; second, Romane 78240, D. Augstin, Carlock, Ill.; third, Monarch 75068, Finch Bros.; fourth, Othello 70517, H. G. McMillan & Sons.

Champion Stallion, Bred by Exhibitor—First, Masterpiece 78132, H. G. McMillan & Sons.

Mare Three Years or Over, Bred by Exhibitor—First, Amorita 61314, Maasdam & Wheeler; second, Rosine 65953, H. G. McMillan & Sons; third, Ailleen 40945, H. G. McMillan & Sons; fourth, Hester 69119, Maasdam & Wheeler; fifth, Crickette 50133, Frank McDowell.

Mare Under Three, Bred by Exhibitor—First, Corvous 76707, J. A. Buswell; second, Janette 70895, H. G. McMillan & Sons; third, Lady Perfection 68287, C. B. Dannen & Sons; fourth, Eveline 68706, H. G. McMillan & Sons.

Champion Mare, Bred by Exhibitor—First, Amorita 61314, Maasdam & Wheeler.

Get of Stallion—First, J. A. Buswell; second, H. G. McMillan & Sons; third, C. B. Dannen & Sons.

Produce of Mare—First, H. G. McMillan & Sons; second, Frank McDowell; third, C. B. Dannen & Sons.

Champion Stallion, Open Class—First, Juridique 85420, Robt. Burgess & Son; second, Garage (71335), Robt. Burgess & Son.

Champion Mare, Open Class—First, LaBelle 34982, H. G. McMillan & Sons; second, Imprudente 70600 (81933), Robt. Burgess & Son.

NATIONAL PERCHERON BREEDERS' FUTURITY.

Opened and Guaranteed by the Chicago Daily Live Stock World.

Stallion Foals of 1910—First, Masterpiece, H. G. McMillan & Sons; second, Agitator, H. G. McMillan & Sons; third, Cartel, Geo. W. Murray; fourth, Monarch 75068, Finch Bros.; fifth, Romane 78240, Dan Augstin; sixth, George W., 72718, H. G. McMillan & Sons; seventh, Imperator 77495, H. G. McMillan & Sons; eighth, Bonesteel 78458, Rookwood Farms; ninth, Avalon 75857, H. G. McMillan & Sons; tenth, Rock 75746, Finch Bros.; eleventh, Corsacan 77124, W. S. Corsa; twelfth, Radora 78157, W. S. Corsa; thirteenth, Radz 78158, W. S. Corsa.

SPECIAL PRIZES OFFERED BY W. S. CORSA OF WHITE HALL, ILLINOIS, IN THE PERCHERON FUTURITIES.

For the Get of Radziwell—First, Mary L. Horton, Rockport, Illinois; second, Chas. Giller & Son, White Hall, Illinois.

SPECIAL PRIZE OFFERED BY H. G. M'MILLAN & SONS OF ROCK RAPIDS, IOWA, IN THE PERCHERON FUTURITIES.

For the Get of Calypso—First, Geo. W. Murray, Estherville, Iowa.

FRENCH DRAFT (Special Class.)

Stallion Over Two, Under Three—First, Crawford & Griffin; second, M. J. Nelson.

CLYDESDALE.

EXHIBITORS.

Will H. Ade, Kentland, Indiana; Anita Horse Company, Anita, Iowa; Peter Birgen, New Hampton, Iowa; M. S. Bonar, Milton, Iowa; Ethelwold Farms, Mondovi, Wisconsin; Jos. F. Gissibl, Anita, Iowa; W. V. Hixson, Marengo, Iowa; John Leitch, LaFayette, Illinois; Mrs. John Leitch, LaFayette, Illinois; Maasdam & Wheeler, Fairfield, Iowa; McLay Bros., Janesville, Wisconsin; James Pedley, Britt, Iowa; David Roth, Williamsburg, Iowa; Frank Shekelton, Lawler, Iowa; A. G. Soderberg, Osco, Illinois; W. W. Weston & Son, Audubon, Iowa.

AWARDS.

JUDGE......................ROBERT MILLER, Stouffville, Ont.

Stallion Four Years or Over—First, Softon 12331, David Roth; second, Rinaldo 15435, John Leitch; third, Kincraig 15355, John Leitch; fourth, Greathill Chief 13809, Jos. F. Gissibl; fifth, John Humphrey 15146, McLay Bros.

Stallion, Over Three, Under Four—First, Samuda 15165, McLay Bros.; second, Montrose Mercury 15442, McLay Bros.; third, Forest King 14076, James Pedley; fourth, Prince William 14349, Mrs. Jno. Leitch; fifth, Osco Victor 15492, A. G. Soderberg.

Stallion Over Two, Under Three—First, Royal Mint (16032), John Leitch; second, Baron Lynedoch 14940, W. V. Hixon; third, Pre-eminent 15351, Jno. Leitch.

Stallion Over One, Under Two—First, Dictator 15696, McLay Bros.; second, Baron Defiance 15858, W. V. Hixon; third, Osco Pride 15470, A. G. Soderberg; fourth, Joseph Dockary 15499, John Leitch; fifth, Shamrock 15871, John Leitch; sixth, Russell 16062, A. G. Soderberg; seventh, Criterion's Best 15940, W. H. Ade.

Stallion Foal—First, Osco Peter 16116, A. G. Soderberg; second ———, McLay Bros.

Stallion Three Years or Over, Bred by Exhibitor—First, Forest King 14076, James Pedley; second, Osco Victor 15492, A. G. Soderberg; third, Mac of Anita 13838, Jos. F. Gissibl; fourth, Glen of Anita 13837, Jos. F. Gissibl.

Stallion Under Three, Bred by Exhibitor—First, Dictator 15696, McLay Bros.; second, Baron Defiance 15858, W. V. Hixon; third, Osco Pride 15470, A. G. Soderberg; fourth, Baron Lynedoch, W. V. Hixon.

Mare Four Years or Over—First, Miss Fanny 15158, McLay Bros.; second, Marjorie 14640, McLay Bros.; third, Sherado Lass (28266), Jno. Leitch; fourth, Geneva 11576, M. S. Bonar.

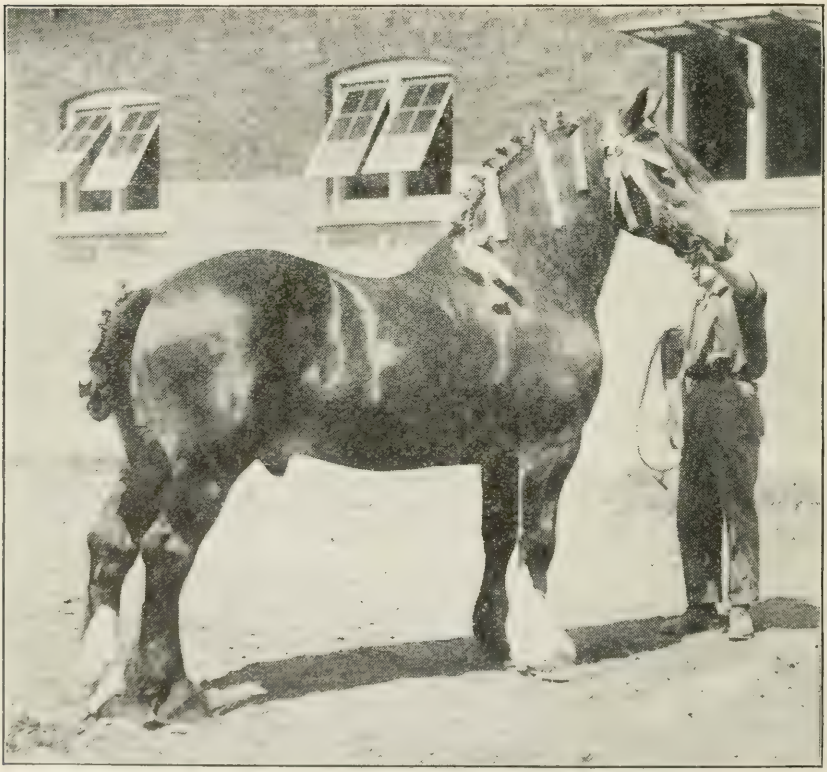
Filly Over Three, Under Four—First, Bessie Winsome 15151, McLay Bros., second, Queen of Time 15453, McLay Bros.

Filly Over Two, Under Three—First, Graceful Lady 14854, McLay Bros.; second, Pride of Avondale 14663, Mrs. John Leitch; third, Lady Charlotte 14855, McLay Bros.

Filly Over One, Under Two—First, May Queen 15859, W. V. Hixon; second, Lady Lustrous 15691; third, Spring Hill Queen 15498, John Leitch.

Mare Under Three, Bred by Exhibitor—First, Clifton Bell 15530, W. V. Hixon; second, Graceful Lady 14854, McLay Bros.; third, Lady Lustrous 15691, McLay Bros.; fourth, Pride of Avondale 14663, Mrs. John Leitch.

Champion Stallion—First, Softon 12331, David Roth; second, Samuda 15165, McLay Bros.



CHAMPION CLYDESDALE STALLION
Iowa State Fair and Exposition, 1911.

Champion Mare—First, Bessie Winsome 15151, McLay Bros.; second, Miss Fanny 15158, McLay Bros.

Champion Stallion Owned in Iowa—First, Softon 12331, David Roth; second, Forest King 14076, Jas. Pedley.

Champion Mare Owned in Iowa—First, May Queen 15859, W. V. Hixon; second, Clifton Bell 15530, W. V. Hixon.

Get of Stallion—First, McLay Bros.; second, W. V. Hixon; third, A. G. Soderberg.

Produce of Mare—First, W. V. Hixon; second, McLay Bros.; third, A. G. Soderberg.

Grand Display—First, McLay Bros.; second, A. G. Soderberg.

Five Stallions Owned by Exhibitor—First, John Leitch.

SPECIAL PRIZES OFFERED BY THE AMERICAN CLYDESDALE ASSOCIATION.

Stallion Three Years Old and Over—First, Softon 12331, David Roth; second, Samuda, McLay Bros.; third, Montrose Mercury, McLay Bros.

Stallion Two Years Old and Under Three—First, Royal Mint 16032, John Leitch; second, Baron Lynedoch 14940, W. V. Hixon; third, Pre-eminent 15351, John Leitch.

Mare Three Years Old and Over—First, Bessie Winsome 15151, McLay Bros.; second, Miss Fanny 15158, McLay Bros.; third, Marjorie 14640, McLay Bros.

Mare Two Years Old and Under Three—First, Graceful Lady 14854, McLay Bros.; second, Pride of Avondale 14663, Mrs. John Leitch; third, Lady Charlotte 14855, McLay Bros.

Mare One Year Old and Under Two—First, May Queen 15859, W. V. Hixon; second, Lady Lustrous 15691, McLay Bros.; third, Spring Hill Queen 15498, John Leitch.

For Registered Clydesdale Foals of 1910 Competing in the National Draft Horse Breeders' Futurities—First, Dictator 15696, McLay Bros.

NATIONAL CLYDESDALE BREEDERS' FUTURITY.

Opened and Guaranteed by the Chicago Daily Live Stock World.

Stallion Foals of 1910—First, Dictator 15696, McLay Bros.; second, Baron Defiance 15858, W. V. Hixon; third, Osco Pride 15470, A. G. Soderberg; fourth, Joseph Dockary 15499, John Leitch; fifth, Shamrock 15871, John Leitch; sixth, Russell 16062, A. G. Soderberg; seventh, Criterion's Best 15940, W. H. Ade.

ENGLISH SHIRE.

EXHIBITORS.

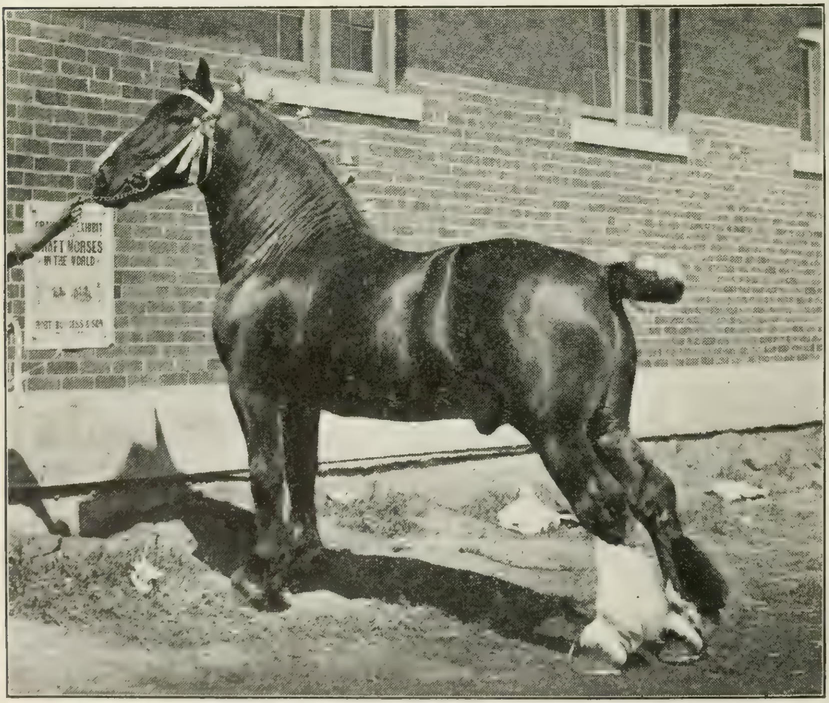
Wm. Crownover, Hudson, Iowa; Finch Bros., Joliet and Verona, Illinois; G. W. Grigsby & Son, Madrid, Iowa; Robt. Hoole, Menlo, Iowa; Peter Hopley & Son, Lewis, Iowa; Frank E. Huston, Waukee, Iowa; Geo. McCray, Fithian, Illinois; John Nie, Raymond, Iowa; J. A. Sage, Ankeny, Iowa; A. G. Soderberg, Osco, Illinois; Truman's Pioneer Stud Farm, Bushnell, Illinois; Union Wrecking Company, Des Moines, Iowa; H. P. Wilkinson & Bros., Mitchellville, Iowa; Geo. M. Wright, Danville, Illinois.

AWARDS.

JUDGE..........................ROBT. OGILVIE, Chicago, Ill.

Stallion Four Years or Over—First, Scarcliffe President (26871) 10709, Peter Hopley & Son; second, Surveyor 92222, Wm. Crownover; third, Gay Chancellor (25224) 11786, Truman's Pioneer Stud Farm; fourth, Bury Skipper (26008), Truman's Pioneer Stud Farm; fifth, Collettes Bar 12262, (26067), Truman's Pioneer Stud Farm.

Stallion Over Three, Under Four—First, Royal Grey 11551 (27727), Truman's Pioneer Stud Farm; second, March Ringleader (28531), Truman's



FIRST PRIZE SHIRE STALLION
Iowa State Fair and Exposition, 1911

Pioneer Stud Farm; third, Carlton Crown Prince 10939, H. P. Wilkinson Bros.; fourth, Goldring 11264, Peter Hopley & Son; fifth, Roosecote Premier (28723), Truman's Pioneer Stud Farm.

Stallion Over Two, Under Three—First, Brinsworth Drayman 11858 (28016), Truman's Pioneer Stud Farm; second, Joy Forest Duke (28413), Peter Hopley & Son; third, Norman Honest Lad (28613), Truman's Pioneer Stud Farm.

Stallion Over One, Under Two—First, Paramount Rex 11639, Wm. Crownover; second, Jack Tar 12010, Geo. M. Wright; third, Truman's Forest King 12498, Truman's Pioneer Stud Farm.

Stallion Foal—First, Bronhope Jr., Union Wrecking Co.; second, Merchants Tom, Union Wrecking Co.

Stallion Three Years or Over, Bred by Exhibitor—First, Osco Baron's Prince-9847, A. G. Soderberg.

Stallion Under Three, Bred by Exhibitor—First ———, Wm. Crownover; second, Truman's Forest King 12498, Truman's Pioneer Stud Farm; third, ———, Wm. Crownover; fourth, Osco Grand Prince 11845, A. G. Soderberg.

Mare Four Years or Over—First, Coldham Surprise 53468, Geo. M. McCray; second, Lady Brown 10973, Frank E. Huston; third, Duchess of Westminster 65561, Truman's Pioneer Stud Farm; fourth, Brookside Madam 56368, Peter Hopley & Son.

Filly Over Three, Under Four—First, Coldham Charm 12000 (59877), Truman's Pioneer Stud Farm; second, Ankeny Starlight 10529, J. A. Sage.

Filly, Over Two, Under Three—First, Lady Mary 64163, Peter Hopley & Son; second, Silver Streak 11524, J. A. Sage; third, Rose O'Brien 11523, J. A. Sage.

Filly, Over One, Under Two—First, Osco Flower 12487, A. G. Soderberg; second, Topsy 65567, Truman's Pioneer Stud Farm; third, Ankeny Mable 12113, J. A. Sage.

Mare Foal—First, ———, George F. McCray; second, ———, J. A. Sage; third, Paramount Esther, Wm. Crownover.

Mare Three Years or Over, Bred by Exhibitor—First, Ankeny Flory 10528, J. A. Sage; second, Fashion Plate 8771, J. A. Sage.

Mare Under Three, Bred by Exhibitor—First, Osco Flower 12487, A. G. Soderberg; second, Ankeny Mable 12113, J. A. Sage; third, Silver Streak 11524, J. A. Sage.

Champion Stallion—First, Royal Grey 11551, Truman's Pioneer Stud Farm; second, Paramount Rex 11639, Wm. Crownover.

Champion Mare—First, Coldham Surprise 53468, Geo. M. McCray; second, Coldam Charm 12000 (59877), Truman's Pioneer Stud Farm.

CHAMPION SHIRE MARE
Iowa State Fair and Exposition, 1911

Champion Stallion, Owned in Iowa—First, Paramount Rex 11639, Wm. Crownover; second, Scarcliffe President (26871) 10709, Peter Hopley & Sons.

Champion Mare, Owned in Iowa—First, Lady Brown 10973, Frank E. Huston; second, Lady Mary 64163, Peter Hopley & Son.

Get of Stallion—First, Wm. Crownover; second, A. G. Soderberg; third, J. A. Sage.

Produce of Mare—First, J. A. Sage; second, Wm. Crownover; third, J. A. Sage.

Grand Display—First, Wm. Crownover; second, J. A. Sage.

Five Stallions, Owned by Exhibitor—First, Truman's Pioneer Stud Farm.

SPECIAL PRIZES OFFERED BY THE SHIRE HORSE SOCIETY OF ENGLAND.

Best Shire Stallion—First, Royal Grey 11551, Truman's Pioneer Stud Farm.

Best Shire Mare—First, Coldham Surprise 53468, Geo. M. McCray.

SPECIAL PRIZES OFFERED BY THE AMERICAN SHIRE HORSE ASSOCIATION.

Champion Stallion, Any Age—First, Royal Grey 11551 (27727), Truman's Pioneer Stud Farm.

Champion Mare, Any Age—First, Coldham Surprise 53468, Geo. M. McCray.

AMERICAN SHIRE ASSOCIATION CUP.

Best American Bred Mare, Any Age—First, Osco Flower 12487, A. G. Soderberg; second, ————, Finch Bros.

Best American Bred Stallion, Any Age—First, Paramount Rex 11639, Wm. Crownover.

NATIONAL SHIRE BREEDERS' FUTURITY

Opened and Guaranteed by the Chicago Daily Live Stock World.

Stallion Foals of 1910—First, Paramount Rex 11639, Wm. Crownover; second, Jack Tar 12010, Geo. M. Wright; third, Truman's Forest King, 12498, Truman's Pioneer Stud Farm; fourth, Osco Farmer 12486, A. G. Soderberg; fifth, Paramount Stamp 11906, Wm. Crownover; sixth, Tatton Dray King 12141, Finch Bros.; seventh, Osco Joy 12485, A. G. Soderberg; eighth, Surveyor 2nd, John Nie Raymond, Iowa.

BELGIAN.

EXHIBITORS.

Will H. Ade, Kentland, Indiana; F. Berkey & Son, Ankeny, Iowa; G. E. Cole, Fonda, Iowa; Crawford & Griffin, Newton, Iowa; Geo. Eggert, Newton, Iowa; Finch Bros., Joliet and Verona, Illinois; R. F. French, Independence, Iowa; G. W. Grigsby, Madrid, Iowa; B. T. Haulman, Ankeny. Iowa; Peter Hopley & Son, Lewis, Iowa; Chas. Irvine, Ankeny, Iowa; J. A. Loughridge, Delta, Iowa; Henry Lefebure, Fairfield, Iowa; Maasdam & Wheeler, Fairfield, Iowa; T. E. McCarty, Princeville, Illinois; C. W. McDermott, Wiota, Iowa; O. K. Jack and Horse Co., Valley Junction, Iowa; Carl A. Rosenfeld, Kelley, Iowa; David Roth, Williamsburg, Iowa; J. G. Scott, Shipley, Iowa.

AWARDS.

JUDGE....................PROF. W. J. KENNEDY, Ames, Iowa.

Stallion Four Years or Over—First, Jupiter 58942, Finch Bros.; second, Martin du Hazior 31862, G. W. Grigsby; third, Robt. 2nd De Rum, 3595 (46686), Chas. Irvine; fourth, Charmant, 4689, Henry Lefebure; fifth, Pet De None (Vol. 16, p. 433), 3953, Chas. Irvine.

Stallion Over Three, Under Four—First, Saturne, Finch Bros.; second, Counsel de Worteghem 5490, B. T. Haulman; third, Captain de Lassus

(Vol. 17 p. 1272), F. Berkey & Son; fourth, Lancier 5476, Finch Bros.; fifth, Ble d'Or 5438, Henry Lefebure.

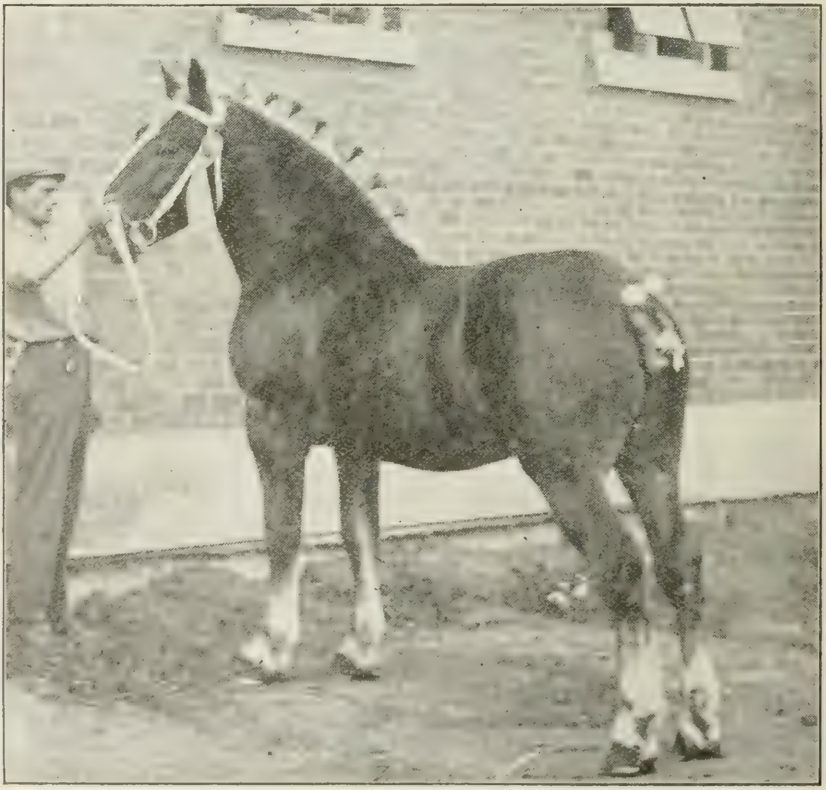
Stallion Over Two, Under Three—First, Challenge 24878, Finch Bros.; second, Faro de Tripesee, Geo. Eggert; third, Danube (Vol. 18 p. 1142) 5491, Chas. Irvine.

Stallion Over One, Under Two—First, Westside Goldfinder 5580, Peter Hopley & Son; second, Rob Roy 5677, C. W. McDermott; third, Lion 5717, Finch Bros.

Stallion Foal—First, Bon de Onker, Carl A. Rosenfeld; second, Marquis IV, Henry Lefebure; third, Marquis II, Henry Lefebure.

Stallion Three Years Old or Over, Bred by Exhibitor—First, Just Inn, Finch Bros.

Stallion Under Three, Bred by Exhibitor—First, Coe 5679, Chas. Irvine; second, Finch Bros.; third, ————, Finch Bros.; fourth, Edward III 5652, Henry Lefebure.



CHAMPION BELGIAN STALLION
Iowa State Fair and Exposition, 1911

Mare Four Years or Over—First, Duivelinne 837 (61331), Chas. Irvine; second, Madame 399, J. A. Loughridge; third, Bon Marche 114 (66719), Chas. Irvine; fourth, Martha Der Herten 61587, Geo. Eggert.

Filly Over Three, Under Four—First, Irene 733, Finch Bros.; second, Miza 2nd Recht (Vol. 17 p. 1399), Chas. Irvine.

Filly Over Two, Under Three—First Binnette 1033, Henry Lefebure; second, Orlette 72505, Maasdam & Wheeler; third, Josee, 2074, Finch Bros.

Filly Over One, Under Two—First, ————, Finch Bros.; second, Suzette 1526, Henry Lefebure; third, Portia 2050, J. A. Loughridge.

Mare Foal—First, ————, J. A. Loughridge; second, ————, J. A. Loughridge; third, Nellette, Henry Lefebure.

Mare Three Years or Over, Bred by Exhibitor—First, Irene 733, Finch Bros.; second, Mignionette 215, Henry Lefebure.

Mare Under Three, Bred by Exhibitor—First, ————, Finch Bros.; second, Fly 2102, Chas. Irvine; third, Nellette, Henry Lefebure.

Champion Stallion—First, Challenge 24878, Finch Bros.; second, Jupiter 58942, Finch Bros.

Champion Mare—First, ————, Finch Bros.; second, Binnette 1033, Henry Lefebure.

Champion Stallion, Owned in Iowa—First, Faro de Tripsee, 58598, Geo. Eggert; second, Martin du Hazoir, (31862), G. W. Grigsby.

Champion Mare Owned in Iowa—First, Binnette, 1033, Henry Lefebure; second, Duivelinne (61331) 837, Chas. Irvine.

Get of Stallion—First, J. A. Loughridge; second, Henry Lefebure; third, Chas. Irvine; fourth, Finch Bros.

Produce of Mare—First, J. A. Loughridge; second, Finch Bros.; third, Chas. Irvine.

Grand Display—First, Finch Bros.; second, J. A. Loughridge; third, Henry Lefebure; fourth, Chas. Irvine.

Five Stallions Owned by Exhibitor—First, Finch Bros.

SPECIAL PRIZES OFFERED BY THE AMERICAN ASSOCIATION OF IMPORTERS AND BREEDERS OF BELGIAN DRAFT HORSES.

Stallion Four Years Old and Over—First, Jupiter, 58942, Finch Bros.; second, Martin du Hazoir, 2445 (31862), G. W. Grigsby; third, Robt. 2nd de Rum 3595 (46686), Chas. Irvine; fourth, Charmant, 4689, Henry Lefebure; fifth, Pet De None (Vol. 16, p. 433) 3953, Chas. Irvine.

Stallion Three Years Old and Under Four—First, Saturne, Finch Bros.; second, Counsel de Worteghem, B. T. Haulman; third, Captaine de Lassus (Vol. 17, p. 1272) 5861, F. Berkey & Son; fourth, Lancier, 5476, Finch Bros.; fifth, Ble d'Or, 5438, Henry Lefebure.

Stallion Two Years Old and Under Three—First, Challenge, 24878, Finch Bros.; second, Faro de Tripsee, Geo. Eggert; third, Danube (Vol. 18, p. 1142) 5491, Chas. Irvine.

Champion Stallion, All Ages Competing—First, Challenge, 24878, Finch Bros.; second, Jupiter, 58942, Finch Bros.

Champion Mare, All Ages Competing—First, ———, Finch Bros.; second, Binnette, 1033, Henry Lefebure.

SPECIAL PRIZES OFFERED BY HENRY LEFEBURE, OF FAIRFAX, IOWA.

To the Four Best Belgian Yearling Stallion Colts Bred in Iowa and Shown by Breeder—First, Peter Hopley & Son; second, C. W. McDermott; third, Chas. Irvine; fourth, R. F. French.

To the Best Belgian Stallion Foal Bred in Iowa and Shown by Breeder—First, Bon de Onker, Carl A. Rosenfeld.

NATIONAL BELGIAN BREEDERS' FUTURITY—OPENED AND GUARANTEED BY THE CHICAGO DAILY LIVE STOCK WORLD.

Stallion Foals of 1910—First, Westside Goldfinder, 5580, Peter Hopley & Son; second, Rob Roy, 5677, C. W. McDermott; third, Lion, 5717, Finch Bros.; fourth, Coc, 5679, Chas. Irvine; fifth, Comet, 5803, R. F. French; sixth, Edward 3rd, 5652, Henry Lefebure; seventh, Bristol 2nd, 5150, Finch Bros.

DRAFT GELDINGS AND MARES.

EXHIBITORS.

Jno. S. Albaugh, Ankeny, Iowa; Peter Birgen, New Hampton, Iowa; F. Berkley & Son, Ankeny, Iowa; J. W. Betts, Cambridge, Iowa; M. S. Bonar, Milton, Iowa; G. E. Cole, Fonda, Iowa; C. B. Dannen & Sons, Melbourne, Iowa; Loren Dunbar, Earlham, Iowa; Geo. Eggert, Newton, Iowa; G. W. Grigsby, Madrid, Iowa; Sam Hague, Van Meter, Iowa; W. V. Hixon, Marengo, Iowa; Frank E. Huston, Waukee, Iowa; Chas. Irvine, Ankeny, Iowa; A. H. Landy, Cambridge. Iowa; Lee Bros., Mitchellville, Iowa; S. O. Lee, Cambridge, Iowa; J. A. Loughridge, Delta, Iowa; Frank McDowell, Spencer, Iowa; H. G. McMillan & Sons, Rock Rapids, Iowa; M. J. Nelson, Cambridge, Iowa; O. K. Jack & Horse Company, Valley Junction, Iowa; P. C. Thompson, Ankeny, Iowa; Truman's Pioneer Stud Farm, Bushnell, Illinois; Guy Zelle, Slater, Iowa.

AWARDS.

JUDGE....................PROF. W. J. KENNEDY, Ames, Iowa.

Gelding or Mare Four Years or Over—First, Fannie, G. E. Cole; second, Prince, John S. Albaugh; third, Bessie, John S. Albaugh; fourth, Pansy, John S. Albaugh.

Gelding or Mare Three Years and Under Four—First, Taft, Jno. S. Albaugh; second, Charley, G. W. Grigsby.

Gelding or Mare Two Years and Under Three—First, Kate, G. W. Grigsby; second, ———, Loren Dunbar; third, Polly, A. H. Landy; fourth, ———, Sam Hague.

Gelding or Mare One Year and Under Two—First, Queen, John S. Albaugh; second, Ole, P. C. Thompson; third, Dave, C. B. Dannen & Sons; fourth, Dude, C. B. Dannen & Sons.

Horse or Filly Foal—First, Barny, P. C. Thompson; second, Queen, Guy Zelle; third, ———, G. W. Grigsby; fourth, ———, G. W. Grigsby.

Best Farmer's Team—First, ———, Chas. Irvine; second, Castille & Bichette, C. B. Dannen & Sons; third, Hermine & Hernie, M. J. Nelson; fourth, ———, Jno. S. Albaugh; fifth, ———, J. A. Loughridge.

Gelding or Mare, Four Years or Over (Open)—First, Truman's Sensation, Truman's Pioneer Stud Farm; second, Prince, Jno. S. Albaugh; third, Fannie, G. E. Cole.

Draft Team in Harness (Open)—First, ———, Chas. Irvine; second, ———, John S. Albaugh.

Champion Mare or Gelding—First, Fannie, G. E. Cole; second, Prince, John S. Albaugh.

STANDARD BRED TROTTERS.

EXHIBITORS.

Katharyne Anderson, Des Moines, Iowa; N. Bartholomew, Des Moines, Iowa; Thomas Bass, Mexico, Missouri; J. L. Betts, Des Moines, Iowa; C. E. Cameron, Alta, Iowa; A. L. Champlin, Ames, Iowa; Dr. C. Clement, Des Moines, Iowa; Fred Crawford, Des Moines, Iowa; Ethelwold Farms, Mondovi, Wisconsin; J. B. Foltz, Stuart, Iowa; Ira Hall, Des Moines, Iowa; Jones & Cole, Colfax, Iowa; Matt Kane, Des Moines, Iowa; Linn Hill Park Stock Farm, Harlan, Iowa; F. A. Mathis, Des Moines, Iowa; O. J. Mooers, Columbia, Missouri; J. R. Peak & Sons, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; W. O. Sinclair, Ashland, Illinois; Thos. F. Stevenson, Des Moines, Iowa; I. Ross Thompson, Des Moines, Iowa; Wilson Bros., Menlo, Iowa; H. C. Young, Des Moines, Iowa.

AWARDS.

JUDGE.....................W. A. DOBSON, Des Moines, Iowa.

Stallion Four Years or Over—First, Tommy Doyl, 50261, J. R. Peak & Son; second, Red Maco, Wilson Bros.; third, Alcantara O, 41201, A. L. Champlin; fourth, Geo. Constantine, 49779, Dr. C. Clement.

Stallion Over Three, Under Four—First, Wardlac, 50357, Fred Crawford; second, Attorney Onwood, 49055, Linn Hill Park Stock Farm; third, Conroy Blake, Katharyne Anderson; fourth, Stuart Allerton, 5244. J. B. Foltz.

Stallion Over Two, Under Three—First, Uncle Jacob, 55262, J. R. Peak & Son; second, Lac Allerton, 51681, Thos. F. Stevenson; third, Onwood Attorney, Linn Hill Park Stock Farm.

Stallion Over One, Under Two—First, Isaac R. T., 54480, I. Ross Thompson; second, J. B. A., 55733, F. A. Mathis; third, Tommy Stuart, 55270. J. R. Peak & Son.

Stallion Foal—First, Make Believe, Linn Hill Park Stock Farm.

Mare Four Years or Over—First, Cora Peak Vol. 18, J. R. Peak & Son; second, Petra's M., Tom Bass; third, Wizard of the Nile, Vol. 18, J. R. Peak & Son; fourth, Lucile Rex, Vol. 17, N. Bartholomew.

Filly Over Three, Under Four—First, Dorothy Allerton, W. O. Sinclair; second, Rosy Leigh, Linn Hill Park Stock Farm.

Filly Over Two, Under Three—First, Maude Clark, Vol. 20, J. R. Peak & Son; second, Aunt Mary, Vol. 20, J. R. Peak & Son; third, Julia, Matt Kane.

Filly Over One, Under Two—First, Tony Lady, Vol. 20, J. R. Peak & Son; second, Maude Clark, Vol. 20, J. R. Peak & Son; third, Lucy Leigh, Linn Hill Park Stock Farm.

Mare Foal—First, Linn Hill Park Stock Farm.

Champion Stallion—First, Tommy Doyle, J. R. Peak & Son; second, Uncle Jacob, J, R. Peak & Son.

Champion Mare—First, Cora Peak, J. R. Peak & Son; second, Dorothy Allerton, W. O. Sinclair.

Get of Stallion—First, J. R. Peak & Son; second, J. R. Peak & Son; third, Linn Hill Park Stock Farm.

Produce of Mare—First, J. R. Peak & Son; second, J. R. Peak & Son; third, Linn Hill Park Stock Farm.

Grand Display—First, J. R. Peak & Son; second, J. R. Peak & Son; third, Linn Hill Park Stock Farm.

AMERICAN CARRIAGE HORSES.

EXHIBITORS.

Katharyne Anderson, Des Moines, Iowa; J. B. Baker, Waverly, Iowa; Thomas Bass, Mexico, Missouri; J. L. Betts, Des Moines, Iowa; Joseph C. Brunk, Springfield, Illinois; C. E. Cameron, Alta, Iowa; A. L. Champlin, Ames, Iowa; Dr. C. Clements, Des Moines, Iowa; Fred Crawford, Des Moines, Iowa; Ethelwold Farms, Mondovi, Wisconsin; W. & A. Graham, Des Moines, Iowa; Hamilton Bros., Keota, Iowa; Hook & Woods, Paris, Missouri; Jones & Cole, Colfax, Iowa; Matt Kane, Des Moines, Iowa; Linn Hill Park Stock Farm, Harlan, Iowa; J. J. Lynes, Plainfield, Iowa; F. A. Mathis, Des Moines, Iowa; S. B. Mills, Ames, Iowa; C. E. Monahan, Des Moines, Iowa; O. J. Mooers, Columbia, Missouri; J. R. Peak & Son, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; W. O. Sinclair, Ashland, Illinois; P. F. Smith, Montezuma, Iowa; I. Ross Thompson, Des Moines, Iowa; C. R. Wells, Washington, Iowa; Wilson Bros., Menlo, Iowa; Wild Rose Farm, St. Charles, Illinois; C. C. Van Meter, Sherman, Illinois.

AWARDS.

JUDGE....................R. P. STERICKER, Oconomowoc, Wis.

Stallion Four Years or Over—First, Roy Morgan, Wild Rose Farm; second, Tommy Doyle, 50261, J. R. Peak & Son; third, Cleveland Reade, 5547, O. J. Mooers.

Stallion Over Three, Under Four—First, ————, Tom Bass; second, Leader of Fashion, 55261, J. R. Peak & Son; third, Wardlac, 50357, Fred Crawford.

Stallion Over Two, Under Three—First, Fantastic King, 3794, O. J. Mooers; second, Roseland, Wild Rose Farm; third, Daniel Hudson, 5762, J. J. Lynes.

Stallion Over One, Under Two—First, Rosemont, Wild Rose Farm; second, Maxwell, P. F. Smith; third, Tommy Stuart, 55270, J. R. Peak & Son.

Stallion With Three of His Get of Either Sex—First, J. R. Peak & Son; second, J. J. Lynes; third, S. B. Mills.

Mare Four Years or Over—First, Cora Peak, Vol. 17, J. R. Peak & Son; second, Bell Rose, Wild Rose Farm; third, The Lavendar Lady, O. J. Mooers.

Mare Over Three, Under Four—First, Dorothy Allerton, W. O. Sinclair; second, Lady Windemere, O. J. Mooers; third, Pearl Morgan, S. B. Mills.

Mare Over Two, Under Three—First, Rosary, Wild Rose Farm; second, Maud Clark, Vol. 20, J. R. Peak & Son; third, Aunt Mary, Vol. 20, J. R. Peak & Son.

Mare Over One, Under Two—First, Agnes Strawn, S. B. Mills; second, Primrose, Wildrose Farm; third, Alice, S. B. Mills.

Stallion or Mare Foal—First, Bessie Baker, Vol. 3, J. B. Baker; second, Ned Scalf, Vol. 3, J. J. Lynes; third, Frank Brown, S. B. Mills.

Champion Stallion—First, Roy Morgan, Wildrose Farm; second, Rosemont, Wildrose Farm.

Champion Mare—First, Cora Peak, J. R. Peak & Son; second, Dolly Allerton, W. O. Sinclair.

ROADSTERS.

EXHIBITORS.

Katharyne Anderson, Des Moines, Iowa; Thomas Bass, Mexico, Missouri; Joseph C. Brunk, Springfield, Illinois; A. L. Champlin, Ames, Iowa; Fred Crawford, Des Moines, Iowa; E. N. DeWitt, Tingley, Iowa; J. B. Foltz, Stuart, Iowa; W. & A. Graham, Des Moines, Iowa; Ira Hall, Des Moines, Iowa; Hamilton Bros., Keota, Iowa; Hook & Woods, Paris, Missouri; Jones & Cole, Colfax, Iowa; Linn Hill Park Stock Farm, Harlan, Iowa; S. B. Mills, Ames, Iowa; C. E. Monahan, Des Moines, Iowa; O. J. Mooers, Columbia, Missouri; J. R. Peak & Son, Winchester, Illinois; W. O. Sinclair, Ashland, Illinois; P. F. Smith, Montezuma, Iowa; Wilson Bros., Menlo, Iowa.

AWARDS.

JUDGE........................T. W. BELL, Chicago, Illinois.

Stallion, Mare or Gelding—First, Cora Peak, Vol. 18, J. R. Peak & Son; second, Miss Sinclair, 5082, W. O. Sinclair; third, Helen Idlewood, 8666, O. J. Mooers; fourth, Petras M., Tom Bass.

Pair Stallions, Mares or Geldings—First, Wizard of the Nile & Cora Peak, J. R. Peak & Son; second, ————, Tom Bass; third, Tommy Doyl & Tommy Piper, J. R. Peak & Son; fourth, Bess and Beth, Wilson Bros.

RUN-ABOUTS.

EXHIBITORS.

Katharyne Anderson, Des Moines, Iowa; Thomas Bass, Mexico, Missouri; Joseph C. Brunk, Springfield, Illinois; A. L. Champlin, Ames, Iowa; Fred Crawford, Des Moines, Iowa; E. N. DeWitt, Tingley, Iowa; W. & A. Graham, Des Moines, Iowa; Ira Hall, Des Moines, Iowa; Hook & Woods, Paris, Missouri; Jones & Cole, Colfax, Iowa; Linn Hill Park Stock Farm, Harlan, Iowa; S. B. Mills, Ames, Iowa; C. E. Monahan, Des Moines, Iowa; O. J. Mooers, Columbia, Missouri; Milt S. Mooney, San Antonio, Texas; J. R. Peak & Son, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; P. F. Smith, Montezuma, Iowa; Wild Rose Farm, St. Charles, Illinois; Wilson Bros., Menlo, Iowa.

AWARDS.

JUDGE........................T. W. BELL, Chicago, Illinois.

Stallion, Mare or Gelding—First, Tea Rose, Wild Rose Farm; second, ————, O. J. Mooers; third, Lovely Lady, Vol. 17, J. R. Peak & Son; fourth, Teddy, E. G. Roberts.

Pair Stallions, Mares or Geldings—First, Wild Rose Farm; second, E. G. Roberts; third, J. R. Peak & Son; fourth, O. J. Mooers.

Stallion, Mare or Gelding Owned in Iowa—First, Teddy, E. C. Roberts; second, Lady McDonald B., W. & A. Graham; third, Morgan Panic, 5003, P. F. Smith; fourth, Black Bess, C. E. Monahan.

SPECIAL PRIZES OFFERED BY S. JOSEPH & SONS, JEWELERS, DES MOINES.

For Best Single Mare or Gelding Owned in Iowa—First, Teddy, E. C. Roberts.

FAMILY TURNOUT.

EXHIBITORS.

Thomas Bass, Mexico, Missouri; A. L. Champlin, Ames, Iowa; W. & A. Graham, Des Moines, Iowa; Hamilton Bros., Keota, Iowa; Linn Hill Park Stock Farm, Harlan, Iowa; C. E. Monahan, Des Moines, Iowa; J. R. Peak & Sons, Winchester, Illinois; Wild Rose Farm, St. Charles, Illinois.

AWARDS.

JUDGE.........................T. W. BELL, Chicago, Illinois.

Best Single Horse Family Turnout—First, ————, Hamilton Bros.; second, Black Bess, C. E. Monahan; third, Naila, Thos. Bass; fourth, Fair Eliza, A. L. Champlin.

LADIES' TURNOUT.

EXHIBITORS.

Thomas Bass, Mexico, Missouri; A. L. Champlin, Ames, Iowa; Fred Crawford, Des Moines, Iowa; W. & A. Graham, Des Moines, Iowa; Hamilton Bros., Keota, Iowa; Linn Hill Park Stock Farm, Harlan, Iowa; C. E. Monahan, Des Moines, Iowa; O. J. Mooers, Columbia, Missouri; Milt S. Mooney, San Antonio, Texas; J. R. Peak & Son, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; Wild Rose Farm, St. Charles, Illinois.

AWARDS.

JUDGE.........................T. W. BELL, Chicago, Illinois.

Single Mare or Gelding—First, Cavalier, C. E. Monahan; second, ————, O. J. Mooers; third, Lady McDonald B, 3480, W. & A. Graham; fourth, Red Bird, Milt S. Mooney.

Pair Mares or Geldings, or Mare and Gelding—First, Robinhood & Cavalier, E. C. Roberts; second, Molly McDonald and Lady McDonald B., W. & A. Graham; third, Peaks Baby and Lovely Lady, J. R. Peak & Son; fourth, Fair Eliza and Ardimersay Lottery, A. L. Champlin.

BROUGHAM HORSES.

EXHIBITORS.

A. L. Champlin, Ames, Iowa; O. J. Mooers, Columbia, Missouri; J. R. Peak & Son, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; Wild Rose Farm, St. Charles, Illinois.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Mare or Gelding to Brougham or Victoria—First, Cavalier, E. C. Roberts; second, Fair Eliza, 19061, A. L. Champlin; third, Barney on Field, J. R. Peak & Son.

Pair Mares or Geldings, or Mare and Gelding to Brougham or Victoria—First, Cavalier & Robinhood, E. C. Roberts; second, Fair Eliza and Ardimersay Lottery, A. L. Champlin; third, ————, O. J. Mooers; fourth, Eugene Gend and Barney on Field, J. R. Peak & Son.

HIGH STEPPERS AND PARK HORSES.

EXHIBITORS.

Chas. E. Bunn, Peoria, Illinois; Joseph C. Brunk, Springfield, Illinois; A. L. Champlin, Ames, Iowa; Fred Crawford, Des Moines, Iowa; W. & A. Graham, Des Moines, Iowa; Jones & Cole, Colfax, Iowa; C. E. Monahan, Des Moines, Iowa; Milt S. Mooney, San Antonio, Texas; O. J. Mooers, Columbia, Missouri; J. R. Peak & Son, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; Perry Simmons, Ames, Iowa; P. F. Smith, Montezuma; Truman's Pioneer Stud Farm, Bushnell, Illinois; Wild Rose Farm, St. Charles, Illinois.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Stallion, Mare or Gelding up to 15-2—First, Cavalier, E. C. Roberts; second, Twelmond, O. J. Mooers; third, Moss Rose, Wild Rose Farm; fourth, Onata, Chas. E. Bunn.

Stallion, Mare or Gelding 15-2 and Over—First, Ely Imperial, 899, (9208) Truman's Pioneer Stud Farm; second, Cleveland Reade, 5547, O. J. Mooers; third, Barney on Field, J. R. Peak & Son; fourth, Ardimersay Lottery, A. L. Champlin.

Pair Stallions, Mares or Geldings up to 15-2 and Under—First, Moss Rose & Tea Rose, Wild Rose Farm; second, Cavalier & Robinhood, E. C. Roberts; third, ————, Wild Rose Farm; fourth, Zambo and Mate, Chas. E. Bunn.

Pair Stallions, Mares or Geldings Over 15-2—First, ————, Wild Rose Farm; second, ————, O. J. Mooers; third, Fair Eliza and Ardimersay

Lottery, A. L. Champlin; fourth, Eugene Gend and Barney on Field, J. R. Peak & Son.

Stallion, Mare or Gelding—First, Robinhood, E. C. Roberts; second, Molly McDonald, 3405, W. & A. Graham; third, Ardimersay Lottery, 19703, A. L. Champlin; fourth, Fair Eliza, 19061, A. L. Champlin.

Pair Stallions, Mares or Geldings—First, Cavalier & Robinhood, E. C. Roberts; second, Mollie McDonald and Lady McDonald, W. & A. Graham; third, Fair Eliza and Ardimersay Lottery, A. L. Champlin; fourth, Robert and Bess, C. E. Monahan.

GIG HORSES.

EXHIBITORS.

Thomas Bass, Mexico, Missouri; Chas. E. Bunn, Peoria, Illinois; Joseph C. Brunk, Springfield, Illinois; A. L. Champlin, Ames, Iowa; E. N. DeWitt, Tingley, Iowa; O. J. Mooers, Columbia, Missouri; Milt. S. Mooney, San Antonio, Texas; J. R. Peak & Son, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; Perry Simmons, Ames, Iowa; Truman's Pioneer Stud Farm, Bushnell, Illinois; Wild Rose Farm, St. Charles, Illinois.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Horses Not Exceeding 15-2—First, Tea Rose, Wild Rose Farm; second, Cavalier, E. C. Roberts; third, Twelmond, O. J. Mooers; fourth, Sunset, Wild Rose Farm.

Horses Over 15-2—First, Red Rose, Wild Rose Farm; second, Cleveland Reade, 5547, O. J. Mooers; third, ———, Wild Rose Farm; fourth, Ardimersay Lottery, 19703, A. L. Champlin.

TANDEMS.

EXHIBITORS.

Chas. E. Bunn, Peoria, Illinois; A. L. Champlin, Ames, Iowa: O. J. Mooers, Columbia, Missouri; Milt S. Mooney, San Antonio, Texas; J. R. Peak & Son, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; Wild Rose Farm, St. Charles, Illinois.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Tandem Team, Wheeler Over 15-2—First, Wild Rose Farm; second, O. J. Mooers; third, Milt. S. Mooney; fourth, A. L. Champlin.

Tandem Team, Wheeler Under 15-2—First, Wild Rose Farm; second, E. C. Roberts; third, J. R. Peak & Son; fourth, Chas. E. Bunn.

UNICORNS.

EXHIBITORS.

O. J. Mooers, Columbia, Missouri; Milt. S. Mooney, San Antonio, Texas; J. R. Peak & Sons, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; Wild Rose Farm, St. Charles, Illinois.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Unicorn Team—First, Wild Rose Farm; second, E. C. Roberts; third, O. J. Mooers; fourth, J. R. Peak & Son.

FOUR-IN-HAND.

EXHIBITORS.

O. J. Mooers, Columbia, Missouri; J. R. Peak & Son, Winchester, Illinois; E. C. Roberts, Davenport, Iowa; Wild Rose Farm, St. Charles, Illinois.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Road Four—First, Wild Rose Farm; second, E. C. Roberts; third, J. R. Peak & Son.

Park Four—First, E. C. Roberts; second, Wild Rose Farm; third, J. R. Peak & Son; fourth, O. J. Mooers.

CHAMPION HARNESS HORSES.

Champion Harness Stallion—First, Roy Morgan, Wild Rose Farm; second, Twelmond, Alex Sloan.

Champion Harness Mare or Gelding—First, Tea Rose; second, Cavalier, E. C. Roberts.

SADDLE HORSES.

EXHIBITORS.

Thomas Bass, Mexico, Missouri; E. F. Besser, Newton, Iowa; E. N. DeWitt, Tingley, Iowa; W. & A. Graham, Des Moines, Iowa; H. A. Greenwell, Lakeman, Missouri; Hamilton Bros., Keota, Iowa; Hook & Woods, Paris, Missouri; Hudson & Wilkinson, Winterset, Iowa; C. E. Monahan, Des Moines, Iowa; O. J. Mooers, Columbia, Missouri; J. R. Peak & Sons, Winchester, Illinois; Ellis Rail, Birmingham, Iowa; W. O. Sinclair, Ashland, Illinois; C. C. Van Meter, Sherman, Illinois; C. R. Wells, Washington, Iowa; Wild Rose Farm, St. Charles, Illinois; Fred Williams, Barnes City, Iowa.

AWARDS.

JUDGE........................WALTER PALMER, Ottawa, Illinois.

Gelding or Mare Four Years or Over—First, Bernice B., Tom Bass; second, All But King, O. J. Mooers; third, Miss Sinclair, 5082, W. O. Sinclair; fourth, Francis McDonald, Tom Bass; fifth, Mollie McDonald, 3405, W. & A. Graham.

Gelding or Mare Over Three, Under Four—First, Jack McDonald, Jr., Hamilton Bros.; second, Shamrock Lady, 5015, C. C. Van Meter; third, Lucille May, 7315, C. R. Wells.

Stallion Four Years and Over—First, Rex Chief A., Tom Bass; second, Joe McDonald, 2591, W. O. Sinclair; third, Mexicnal 2775, C. R. Wells; fourth, Artist Montrose Squirrel, 2037, Fred Williams; fifth, Cissel, 1493, Ellis Rail.

Stallion Over Three, Under Four—First, Star Grand, Tom Bass; second, Scotty Moore, Tom Bass.

Champion Stallion, Mare or Gelding—First, Rex Chief A., Tom Bass; second, Jack McDonald, Jr., Hamilton Bros.

Mare or Gelding Ridden by Lady—First, Lady McDonald B., W. & A. Graham; second, All But King, O. J. Mooers.

Stallion Two Years Old Shown in Hand—First, Randolph King, Tom Bass; second, Fantastic King, 3794, O. J. Mooers.

Mare Two Years Old Shown in Hand—First, Cricket C., Hamilton Bros.

WALK, TROT AND CANTER.

Mare or Gelding, Any Age—First, Sunset, Wild Rose Farm; second, Sinclair, W. O. Sinclair; third, Lady Windemere, O. J. Mooers; fourth, ———, C. R. Wells; fifth, Francis McDonald, Tom Bass.

Stallion Any Age—First, Rex Chief A., Tom Bass; second, Joe McDonald, W. O. Sinclair; third, ———, Tom Bass; fourth, Artist Montrose Squirrel, Fred Williams; fifth, ———, O. J. Mooers.

COMBINED HARNESS AND GAITED SADDLE HORSES.

Stallion, Mare or Gelding, Any Age—First, Helen Adlewood, 8666, O. J. Mooers; second, Lady McDonald B., 3480, W. & A. Graham; third, Joe McDonald; W. O. Sinclair; fourth, ———, Tom Bass.

HIGH SCHOOL HORSES.

Stallion, Mare or Gelding, Any Age—First, The Belle, Tom Bass; second, Miss Sinclair, W. O. Sinclair; third, Lucille May, 7315, C. R. Wells; fourth, Artist Montrose Squirrel, 2037, Fred Williams.

Mare or Gelding Three Years or Over—Local—First, Lady, McDonald B., 3480, W. & A. Graham; second, Mollie McDonald, 3405, W. & A. Graham; third, Iella Squirrel 4848, C. R. Wells.

Stallion Three Years or Over—First, Mexicnal 2775, C. R. Wells; second, Artist Montrose Squirrel 2037, Fred Williams; third, Cissel 1493, Ellis Rail.

SPECIAL PRIZES OFFERED BY THE AMERICAN SADDLE HORSE BREEDERS' ASSOCIATION.

(Competition limited to Iowa.)

Stallion or Mare Three Years Old and Under, Shown to Hand—First, Cricket C., Hamilton Bros.

MORGANS.

EXHIBITORS.

J. B. Baker, Waverly, Iowa; Thomas Bass, Mexico, Missouri; Joseph C. Brunk, Springfield, Illinois; J. J. Lynes, Plainfield, Iowa; S. B. Mills, Ames, Iowa; O. J. Mooers, Columbia, Missouri; C. E. Mundell, Lucas, Iowa; P. F. Smith, Montezuma, Iowa; Wild Rose Farm, St. Charles, Illinois.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Stallion Four Years Old or Over—First, Cleveland Reade, 5547, O. J. Mooers; second, Melrose, Wild Rose Farm; third, Onus Foxy, 5009, C. E. Mundell; Morgan Panic, 5003, P. F. Smith.

Stallion Three Years, Under Four—First, Rosewood, Wild Rose Farm; second, Tim Morgan, 5606, P. F. Smith.

Stallion Two Years, Under Three—First, Roseland, Wild Rose Farm; second, Daniel Hudson, 5762, J. J. Lynes; third, Knox All, P. F. Smith; fourth, Prince, 6356, S. B. Mills.

Stallion Over One, Under Two—First, Roy Rose, Wild Rose Farm; second, Maxwell, P. F. Smith; third, Tommy Strawn, 6357, S. B. Mills.

Stallion or Mare Foal—First, Bessie Baker, Vol. 3, J. B. Baker; second, Dot Morgan, P. F. Smith; third, Hazel, S. B. Mills; fourth, Panics Daisy, P. F. Smith.

Mare Four Years or Over—First, Queen of Spades, Wild Rose Farm; second, Queen of Clubs, Wild Rose Farm; third, ————, O. J. Mooers; fourth, Princess Vol. 3, S. B. Mills.

Mare Over Three, Under Four—First, Rosalie, Wild Rose Farm; second, Lady Windemere, O. J. Mooers; third, Merl Morgan Vol. 3, S. B. Mills; fourth, Pearl Morgan, Vol. 3, S. B. Mills.

Filly Over Two, Under Three—First, Rosary, Wild Rose Farm; second, Lady Pactolus, Vol. 3, S. B. Mills; third, Queen of All, P. F. Smith; fourth, Midget, P. F. Smith.

Filly Over One, Under Two—First, Agnes Strawn, S. B. Mills; second, S. B. Mills; third, Primrose, Wild Rose Farm; fourth, Florence Baker, Vol. 3, J. B. Baker.

Champion Stallion—First, Cleveland Reade, 5547, O. J. Mooers; second, Melrose, Wild Rose Farm.

Champion Mare—First, Queen of Spades, Wild Rose Farm; second, Lady Windemere, O. J. Mooers.

Get of Stallion—First, Wild Rose Farm; second, Wild Rose Farm; third, J. J. Lynes.

Grand Display—First, Wild Rose Farm; second, Wild Rose Farm; third, S. B. Mills.

HACKNEY.

EXHIBITORS.

Chas. E. Bunn, Peoria, Illinois; A. L. Champlin, Ames, Iowa; Crawford & Griffin, Newton, Iowa; Finch Bros., Joliet and Verona, Illinois; Henry Lefebure, Fairfax, Iowa; Truman's Pioneer Stud Farm, Bushnell, Illinois.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Stallion Four Years or Over—First, Todington, 1133 (10464), Truman's Pioneer Stud Farm; second, Nepture, 632 (7940), Crawford & Griffin; third, Ely Imperial, 899 (9208), Truman's Pioneer Stud Farm; fourth, Leamington, Chas. E. Bunn.

Stallion Over Two, Under Three—First, Truman's Prickwillow, Truman's Pioneer Stud Farm.

Stallion Over One, Under Two—First, Promoter, Chas. E. Bunn; second, The Mikado, Finch Bros.; third, Lunderstone William, 1401, Crawford & Griffin.

Stallion or Mare Foal—First, Henry Lefebure.

Mare Four Years or Over—First, New Lady Gay, 2520 (19390), Truman's Pioneer Stud Farm; second, Wood Molly, 18771, Henry Lefebure; third, Ardimersay Lottery, 19703, A. L. Champlin.

Mare Over Three, Under Four—First, Chas. E. Bunn.

Filly Over Two, Under Three—First, Odora, Chas. E. Bunn; second, Orris, Chas. E. Bunn.

Filly Over One, Under Two—First, Petunia, Chas. E. Bunn.

Champion Stallion—First, Todington, Truman's Pioneer Stud Farm; second, Truman's Prickwillow, Truman's Pioneer Stud Farm.

Champion Mare—First, New Lady Gay, Truman's Pioneer Stud Farm; second, Olata, Chas. E. Bunn.

Get of Stallion—First, Chas. E. Bunn.

Produce of Mare—First, Chas. E. Bunn; second, Chas. E. Bunn.

Grand Display—First, Truman's Pioneer Stud Farm; second, Chas. E. Bunn; third, Chas. E. Bunn.

WELSH PONIES.

EXHIBITORS.

Geo. E. Brown, Aurora, Illinois; Wm. Cooper & Nephews Company, Chicago, Illinois; Geo. A. Heyl, Washington, Illinois; B. B. Welty, Nevada, Iowa.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Stallion Three Years or Over—First, Gwyndy Brenin, 300, Geo. A. Heyl; second, ————, Wm. Cooper Nephews Co.

Stallion Two Years, Under Three—First, Tip Top, 210, Geo. E. Brown; second, Gold Dust, Geo. E. Brown.

Mare Three Years or Over—First, Wm. Cooper Nephews Co.; second, Llwyn Sunset, 215, Geo. E. Brown; third, Ryana, 202, Geo. E. Brown.

Mare Two Years, Under Three—First, Fickle, 208, Geo. E. Brown; second, Foregate Polly, 3209, Geo. A. Heyl; third, Music, 207, Geo. E. Brown.

Pony in Harness—First, ————, Geo. A. Heyl; second, Warwick 93, Geo. E. Brown; third, Blaze the Way, 190, Geo. E. Brown.

Pair of Ponies in Harness—First, Geo. E. Brown; second, Geo. A. Heyl.

Tandem Team—First, Criterian and Tip Top. Geo, E. Brown; second, ————, Geo. A. Heyl.

Pony Under Saddle—First, Geo. A. Heyl; second, Geo. A. Heyl.

SHETLAND PONIES.

EXHIBITORS.

Chas. Backman, Des Moines, Iowa; M. E. Bridgford, Joy, Illinois; Chas. E. Bunn, Peoria, Illinois; Cassidy & Thompson, Jamaica, Iowa; G. A. Chaffee, Minneapolis, Minnesota; Freeman Davis, Moulton, Iowa; H. C.

Davis, Ames, Iowa; John Donhowe, Story City, Iowa; O. W. Gale, Moulton, Iowa; Geo. A. Heyl, Washington, Illinois; H. W. Littleton, Harlan, Iowa; Matt Miller, Spirit Lake, Iowa; W. T. Roberts & Sons, Ames, Iowa; Maxine Saber, Des Moines, Iowa; Phillip Shore, Des Moines, Iowa; Mrs. Adam Stirling, Des Moines, Iowa; B. B. Welty, Nevada, Iowa; Fred Williams, Barnes City, Iowa.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Stallion Four Years or Over—First, Grandee, Chas. E. Bunn; second, Locust, Chas. E. Bunn; third, King Larigo, 8778, Geo. A. Heyl; fourth, Prince Hal, Chas. E. Bunn.

Stallion Three Years, Under Four—First, Silver Tips, 9326, Geo. A. Heyl; second, Exit, Chas. E. Bunn; third, Silver Bob, 9091, Geo. A. Heyl; fourth, Dermot, 7700, Jno. Donhowe.

Stallion Two Years, Under Three—First, Grandee, Chas. E. Bunn; second, Flip, Chas. E. Bunn; third, Silver Tips 2nd, 10436, Geo. A. Heyl; fourth, Robt. Dell, 10614, Geo. A. Heyl.

Stallion or Mare Foal—First, ————, H. W. Littleton; second, Doliver, Jno. Donhowe; third, Quickserv, Mrs. Adam Stirling; fourth, Dugold, W. T. Roberts & Son.

Mare Four Years or Over—First, Kancette, Chas. E. Bunn;; second, Fairy, Chas. E. Bunn; third, Gazelle, Chas. E. Bunn; fourth, Pearl, 8779, Geo. A. Heyl.

Mare Three Years, Under Four—First, Nancine, Chas. E. Bunn; second, Nasturtium, Chas. E. Bunn; third, Minna Rae, 8771, Geo. A. Heyl; fourth, Harum Sparkle, 9086, Geo. A. Heyl.

Mare Over Two, Under Three—First, Ovilta, Chas. E. Bunn; second, Mildred Harum, 10561, Geo. A. Heyl; third, Opaque, Chas. E. Bunn; fourth, Harum Sparkle 2nd, 11790, Geo. A. Heyl.

Mare Over One, Under Two—First, Princess Larigo, Geo. A. Heyl; second, Peoria, Chas. E. Bunn; third, Parthenea, Chas. E. Bunn; fourth, B. B. Welty.

Pony in Harness—First, Locust, Chas. E. Bunn; second, Grandee, Chas. E. Bunn; third, Prince Hal, Chas. E. Bunn; fourth, Silver Tips, 9326, Geo. A. Heyl.

Pair Ponies in Harness—First, Locust & Prince Hal, Chas. E. Bunn; second, Grandee & Kancette, Chas. E. Bunn; third, Anton & Dunton, Jno. Donhowe; fourth, Lord Kennedy & Joyful, B. B. Welty.

Four-in-Hand—First, Chas. E. Bunn; second, John Donhowe; third, H. C. Davis.

Tandem Team—First, Grandee & Prince Hal, Chas. E. Bunn; second, Silver Tips & Silver Bob, Geo. A. Heyl; third, Kancette & Fairy, Chas. E. Bunn; fourth, Beauty Spot & Dermot, Jno. Donhowe.

Pony Under Saddle—First, Queen, 8787, Mrs. Adam Stirling; second, Dermot, 7700, Jno. Donhowe; third, Dimple, Chas. Backman; fourth, ———, H. C. Davis.

Four Colts, Get of One Sire—First, Chas. E. Bunn; second, Geo. A. Heyl; third, Jno. Donhowe; fourth, W. T. Roberts.

Champion Stallion, Mare or Gelding in Harness—First, Locust, Chas. E. Bunn; second, Grandee, Chas. E. Bunn.

Grand Display—First, Chas. E. Bunn; second, Geo. A. Heyl; third, Chas. E. Bunn; fourth, W. T. Roberts & Son.

Pony in Harness—(Local)—First, Beauty Spot, Jno. Donhowe; second, Anton, 4342, Jno. Donhowe; third, Lightning, 6987, W. T. Roberts & Son; fourth, Jester, 5735, W. T. Roberts & Son.

Pair Ponies in Harness—First, Beauty Spot & Dermot, Jno. Donhowe; second, Blanch & Mary, B. B. Welty; third, Anton & Dunton, Jno. Donhowe; fourth, Lightning & Jester, W. T. Roberts & Son.

Ponies Under Saddle—First, Lady Betty Vol. 17, Mrs. Adam Stirling; second, Teddis, 6391, Jno. Donhowe; third, Dermot, 7700, Jno. Donhowe; fourth, H. C. Davis.

PONIES OTHER THAN SHETLAND.

EXHIBITORS.

Chas. E. Bunn, Peoria, Illinois; G. A. Chaffee, Minneapolis, Minnesota; H. C. Davis, Ames, Iowa; John Donhowe, Story City, Iowa; Sam Hague, Van Meter, Iowa; Geo. A. Heyl, Washington, Illinois; W. H. Inabet, Humeston, Iowa; Mrs. Harry B. Kinnard, Des Moines; T. J. Lee, Mitchell ville, Iowa; H. W. Littleton, Harlan, Iowa; Warren T. MacDonald, Ames, Iowa; Matt Miller, Spirit Lake, Iowa; O. J. Mooers, Columbia, Missouri; Geo. Palmer, Des Moines, Iowa; J. R. Peak & Son, Winchester, Illinois; Truman's Pioneer Stud Farm, Bushnell, Illinois; B. B. Welty, Nevada, Iowa.

AWARDS.

JUDGE................R. P. STERICKER, Oconomowoc, Wisconsin.

Pony in Harness—First, Zambo, Chas. E. Bunn; second, Sthoreen Bawn, 2401 (17747), Truman's Pioneer Stud Farm; third, Czarina, Chas. E. Bunn.

Pony Under Saddle—First, Nantes, Chas. E. Bunn; second, ———, Geo. A. Heyl; third, ———, Geo. A. Heyl.

Pair of Ponies in Harness—First, Chas. E. Bunn; second, Chas. E. Bunn; third, Geo. A. Heyl.

Tandem Team—First, Czarina, Chas. E. Bunn; second, Montgomery Flower, Chas. E. Bunn; third, ———, Geo. A. Heyl.

MULES AND JACKS.

EXHIBITORS.

Cassidy & Thompson, Jamaica, Iowa; F. B. Duff, Winterset, Iowa; Loren Dunbar, Earlham, Iowa; A. L. Foster, Winterset; T. J. Lee, Mitchellville, Iowa; O. K. Jack & Horse Company, Valley Junction, Iowa; J. L. Poling, Lacona, Iowa.

AWARDS.

JUDGE......................W. A. DOBSON, Des Moines, Iowa.

Mule Four Years or Over—First, Maud, Cassidy & Thompson; second, ———, T. J. Lee.

Mule Over Three, Under Four—First, Molly, T. J. Lee; second, ———, J. L. Poling.

Mule Over Two, Under Three—First, Joe, T. J. Lee; second, Kate, T. J. Lee.

Mule Over One, Under Two—First, J. L. Poling; second, Loren Dunbar.

Mule Colt Under One Year—First, ———, Loren Dunbar; second, ———, T. J. Lee.

Mine Mules Under 15 Hands—First, Bird, A. L. Foster; second, ———, F. B. Duff.

Pair of Mules Over 2400 Pounds—First, Maud & Jennie, Cassidy & Thompson; second, ———, T, J. Lee.

Pair Mules Under 2400 Pounds—First, ———, F. B. Duff; second, Bird & Bell, A. L. Foster.

Pair of Mules Any Age or Weight—First, Maud and Jennie, Cassidy & Thompson; second, ———, T. J. Lee.

Five Mules of Any Age—First, ———, T. J. Lee; second, ———, J. L. Poling.

Champion Mule Any Age—First, Maud, Cassidy & Thompson; second, Joe, T. J. Lee.

Jack Three Years and Over—First, Bart, O. K. Jack & Horse Co.; second, Judge, O. K. Jack & Horse Co.

CATTLE DEPARTMENT.

SUPERINTENDENT....................H. L. PIKE, Whiting, Iowa.

SHORT-HORNS.

EXHIBITORS.

Barr & Rae, Ames, Iowa; H. G. Bowers, Elmwood, Illinois; G. H. Burge, Mt. Vernon, Iowa; Cahill Bros., Rockford, Iowa; Funke Bros., Greenfield, Iowa; W. E. Graham, Prairie City, Iowa; E. M. Hall, Carthage, Missouri; F. W. Harding, Waukesha, Wisconsin; Wm. Herkelman, Elwood, Iowa; Leemon Stock Farm, Hoopeston, Illinois; Theo. Martin, Bellevue, Iowa; H. G. McMillan & Sons, Rock Rapids, Iowa; Wm. Milne, Des Moines, Iowa; H. H. Powell & Son, Linn Grove, Iowa; Rapp Bros., St. Edward, Nebraska; J. G. Robbins & Sons, Horace, Indiana; Rookwood Farm, Ames, Iowa; C. A. Saunders, Manilla, Iowa; W. W. Seeley, Stuart, Iowa; D. Tietjen, Bellevue, Iowa; Tomson Bros., Dover, Kansas; Geo. M. Vader, Churdan, Iowa; R. E. Watts & Sons, Miles, Iowa; Ed. Whitcomb, Prairie City, Iowa; W. A. Wickersham, Melbourne, Iowa; J. S. Zook & Son, Fontanelle, Iowa.

AWARDS.

JUDGE, JOHN L. REID, Crombly Bank, Ellon, Aberdeenshire, Scotland.

Bull Three Years or Over—First, Sultan Mine, 320273, F. W. Harding; second, Hopeful Knight, 244229, G. H. Burge; third, Golden Grove, 299534, E. M. Hall, Carthage, Missouri; fourth, Monarch Viceroy, 264469, Theo. Martin; fifth, Blythesome Baron, 224434, Cahill Bros.; sixth, Hallwood Stamp, 304512, E. M. Hall; seventh, Lakewood Sultan, 270041, H. G. McMillan.

Bull Two Years and Under Three—First, Hampton's King, 216734, H. G. McMillan & Son; second, Imperial Victor, 336907, Tomson Bros.; third, Proud Robbin, 323815, W. A. Wickersham; fourth, Missies Sultan, 316621, Cahill Bros.; fifth, Cumberland Archer 2nd, 317597, C. A. Saunders.

Senior Yearling Bull—First, Foxy Favorite, 336713, Rapp Bros.; second, Royal Cumberland, 334808, C. A. Saunders; third, Count Avon, 334946, Rookwood Farm; fourth, Woodland Sultan, 351415, H. G. Bowers; fifth, Merry Goods, 333575, Cahill Bros.; sixth, Sultan Stamp, 334974, F. W. Harding; seventh, Choice Sultan 2nd, 333075, G. H. Burge.

Junior Yearling Bull—First, King Cumberland 2d, 352076, H. H. Powell & Son; second, Cash Tip, 351682, Rapp Bros.; third, Cumberland's Best, 334805, C. A. Saunders; fourth, Fair Knight 2nd, 350285, H. G. McMillan & Sons; fifth, Prince Cumberland, 339269, C. A. Saunders; sixth, Royal Goodfellow, 346258, G. H. Burge; seventh, Locin Dale, 334951, Leemon Stock Farm.

Senior Bull Calf—First, Scotch Cumberland, C. A. Saunders; second, Correct Fashion, 350511, F. W. Harding; third, The Governor, 351598, D. Tietjjen; fourth, Hallwood Lad, E. M. Hall; fifth, Silver Sultan, G. H. Burge; sixth, Princely Sultan, 350513, F. W. Harding; seventh, Hallwood Choice, E. M. Hall.

Junior Bull Calf—First, True Cumberland 2nd, C. A. Saunders; second, Village Pride, 352176, Rapp Bros.; third, Sultan Selection, 350516, F. W. Harding; fourth, ————, F. W. Harding; fifth, Algor Avon, R. E. Watts & Sons; sixth, Choice Sultan 2nd, 352999, Cahill Bros.; seventh, Roan Boy, 350627, Wm. Herkelman.

Cow Three Years or Over—First, Nonpareil, 44, 99716, F. W. Harding; second, Beauty 23rd, 36523, H. G. McMillan & Sons; third, Rosamond, 50165, Cahill Bros.; fourth, Sassy Violet 3rd, 59495, Wm. Herkelmann; fifth, Gloster's Rose, 1957, R. E. Watts & Son; sixth, Lavendar Bud, 32429, Funke Bros.; seventh, Florella, Vol. 68, G. H. Burge.

Heifer Two Years and Under Three—First, Daisy Queen, 86345, Tomson Bros.; second, Roan Fashion, 107083, R. E. Watts & Son; third, White Lily, 85140, Rapp Bros.; fourth, Minnie 4th, 88079, C. A. Saunders; fifth, Anoka Gloster 3rd, 87208, F. W. Harding; sixth, Countess Hallwood 3rd, 59908, E. M. Hall; seventh, Anna Secrecy 2nd, 86308, Wm. Herkelman.

Senior Yearling Heifer—First, Ruberta's Choice, 90184, H. G. Bowers; second, Scottish Cumberland, 86367, C. A. Saunders; third, Marshall's Missie, 86337, D. Tietjen; fourth, Ruberta Cumberland, 86366, C. A. Saunders; fifth, Pleasant Valley, Victoria 4th, 99719, Cahill Bros.; sixth, Hallwood Rose 4th, E. M. Hall; seventh, Broadhooks Sultan, 104736, F. W. Harding.

Junior Yearling Heifer—First, Lady Cumberland, 86364, C. A. Saunders; second, Mildred Snowball, 86365, C. A. Saunders; third, Queen of Hearts, 105764, Rapp Bros.; fourth, Bonnie Cumberland 2nd, 86363, C. A. Saunders; fifth, Gloster Sultana, 104733, F. W. Harding; sixth, Sultan's Aconite, 86627, F. W. Harding; seventh, Morning Butterfly, 81241, H. G. McMillan & Sons.

Senior Heifer Calf—First, Pleasant Mildred, 106369, Rapp Bros.; second, Lavender Sultana 2nd, 104737, F. W. Harding; third, Maid of the Ring, C. A. Saunders; fourth, Bonnie Cumberland 3rd, C. A. Saunders; fifth, Rosena, 107345, H. G. Bowers; sixth, Princess Rose, 106081, D. Tietjen; seventh, Bonnie Cumberland 4th, C. A. Saunders.

Junior Heifer Calf—First, Scottish Cumberland 2nd, C. A. Saunders; second, Clipper Sultana, 104734, F. W. Harding; third, Gipsey Cumberland 1st, C. A. Saunders; fourth, Dutchess of Gloster, 78, C. A. Saunders; fifth, Gipsey Cumberland 2nd, C. A. Saunders; sixth, Her Excellence, 106079, D. Tietjen; seventh, Bright Belle, 106368, Rapp Bros.

Senior Champion Bull—Sultan Mine, 320273, F. W. Harding.

Junior Champion Bull—King Cumberland 2nd, 352076, H. H. Powell & Son.

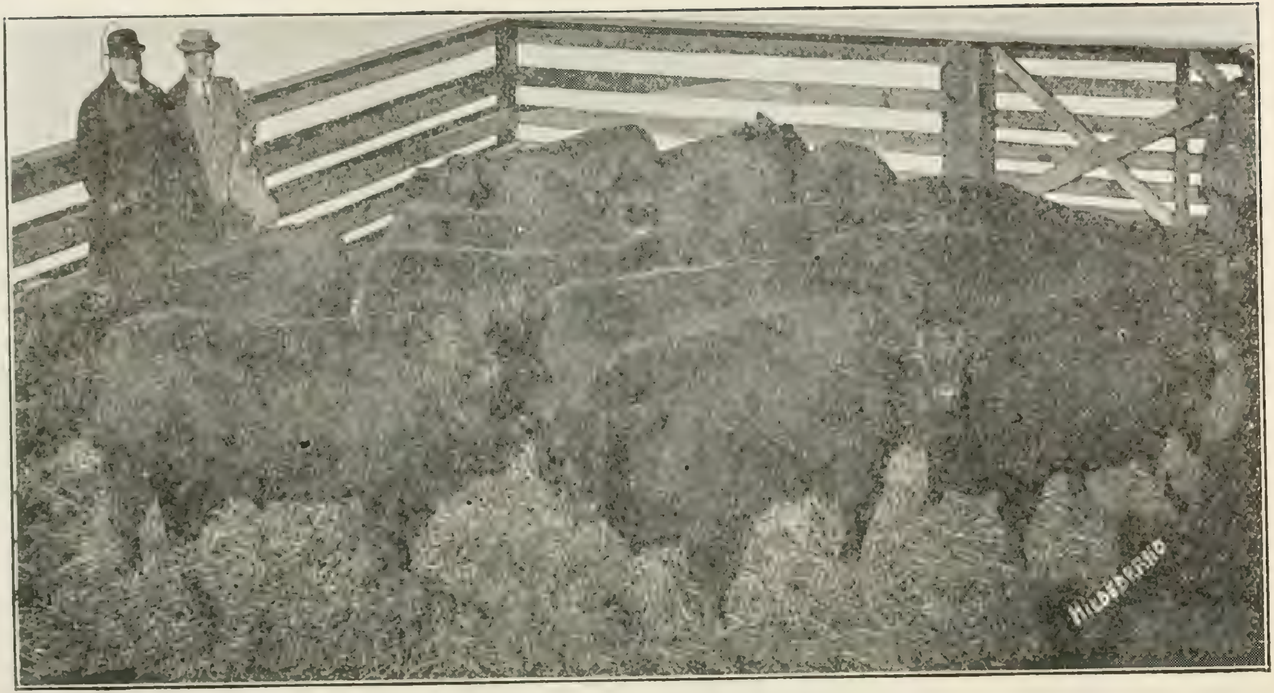
Senior Champion Cow—Nonpareil 44, 99716, F. W. Harding.

Junior Champion Cow—Lady Cumberland, 86364, C. A. Saunders.

Grand Champion Bull—Sultan Mine, 320273, F. W. Harding.

Grand Champion Cow—Lady Cumberland, 86364, C. A. Saunders.

Exhibitor's Herd—First, F. W. Harding; second, C. A. Saunders; third, H. G. McMillan & Sons; fourth, Rapp Bros.; fifth, G. H. Burge; sixth, Cahill Bros.



CHAMPION CARLOAD LOT OF STEERS.
International Live Stock Show, Chicago, 1911. Exhibited by Escher & Ryan, Erwin, Iowa.

Breeders' Young Herd—First, C. A. Saunders; second, C. A. Saunders; third, F. W. Harding; fourth, Rapp Bros.; fifth, C. A. Saunders; sixth, E. M. Hall.

Calf Herd—First, C. A. Saunders; second, F. W. Harding; third, C. A. Saunders; fourth, Rapp Bros.; fifth, C. A. Saunders; sixth, E. M. Hall.

Get of Sire—First, F. W. Harding; second, C. A. Saunders; third, Rapp Bros.; fourth, C. A. Saunders; fifth, C. A. Saunders; sixth, H. G. McMillan & Sons.

Produce of Cow—First, C. A. Saunders; second, H. G. Bowers; third, C. A. Saunders; fourth, C. A. Saunders; fifth, R. E. Watts & Son; sixth, F. W. Harding.

IOWA SPECIALS.

Bull Three Years or Over—First, Hopeful Knight, 244229, G. H. Burge; second, Monarch Viceroy, 264469, Theo. Martin; third, Blythesome Baron, 224434, Cahill Bros.; fourth, Lakewood Sultan, 27001, H. G. McMillan & Sons; fifth, Straight Marshall, 247519, D. Tietjen; sixth, Violet's Nonpareil, 282673, Funke Bros.; seventh, Scotch Avon, 315678, R. E. Watts & Son; eighth, Royal D., 318312, W. W. Seeley.

Bull Two Years, Under Three—First, Hamptons King, 216734, H. G. McMillan & Sons; second, Proud Robbin, 323815, W. A. Wickersham; third, Missies Sultan, 316621, Cahill Bros.; fourth, Cumberland Archer 2nd, 317597, C. A. Saunders.

Senior Yearling Bull—First, Royal Cumberland, 334808, C. A. Saunders; second, Count Avon, 334946, Rookwood Farms; third, Merry Goods, 333575, Cahill Bros.; fourth, Choice Sultan 2nd, 333075, G. H. Burge; fifth, May Clipper, 337688, W. W. Seeley.

Junior Yearling Bull—First, King Cumberland 2nd, 352076, H. H. Powell & Sons; second, Cumberland's Best, 334805, C. A. Saunders; third, Fair Knight 2nd, 350285, H. G. McMillan & Sons; fourth, Prince Cumberland, 339269, C. A. Saunders; fifth, Royal Goodfellow, 346258, G. H. Burge; sixth, Count Nonpareil, 351033, Wm. Herkelmann; seventh, Corrector, 334788, D. Tietjen.

Senior Bull Calf—First, Scotch Cumberland, C. A. Saunders; second, The Governor, 351958, D. Tietjen; third, Silver Sultan, G. H. Burge; fourth, Lavender King, 353118, Funke Bros.; fifth, British Knight 3rd, 353410, Rookwood Farms; sixth, Cadmus, G. H. Burge; seventh, Major, 351957, D. Tietjen; eighth, Lawndale Monarch, Theo. Martin.

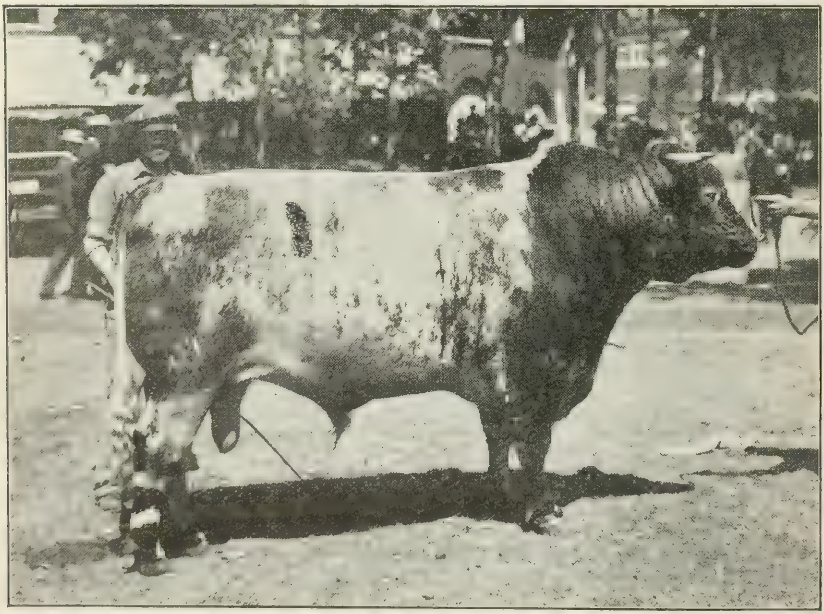
Junior Bull Calf—First, True Cumberland 2nd, C. A. Saunders; second, Algor Avon, R E Watts & Sons; third, Choice Sultan 2nd, 352999, Cahill Bros.; Roan Boy, 35027, Wm. Herkelmann; fifth, Red Cumberland 4th, C. A. Saunders; sixth, White Baron, 353004, Cahill Bros.; seventh, Roan Baron, 353001, Cahill Bros.; eighth, Roan Monarch, Theo Martin.

Cow Three Years or Over—First, Beauty 23rd, 36523, H. G. McMillan & Sons; second, Rosamond, 50165, Cahill Bros.; third, Sassy Violet 3rd, 69495, Wm. Herkelmann; fourth, Gloster's Rose, 1957, R E. Watts & Sons; Lavender Bud, 32429, Funke Bros.; sixth, Florella (Vol. 68), G. H. Burge; seventh, Scotch Lavender 4th, 13923, Cahill Bros.; eighth, Keepsake (Vol. 68), Cahill Bros.

Heifer Two Years, Under Three—First, Roan Fashion, 107083, R. E. Watts & Sons; second, Minnie 4th, 88079, C. A. Saunders; third, Anna Secrecy 2nd, 86308, Wm. Herkelmann; fourth, Goldie 86311, Wm. Herkelman; fifth, Pinegrove Butterfly 2nd, 62447, H. G. McMillan & Sons; sixth, Victoria's Love, J. S. Zook; seventh, Money's Lady (Vol 77), G. H. Burge; eighth, Averne 15, J. S. Zook.

Senior Yearling Heifer—First, Scottish Cumberland, 86367, C. A. Saunders; second, Marshall's Missie, 86337, D. Tietjen; third, Ruberta Cumberland, 86366, C. A. Saunders; fourth, Pleasant Valley Victoria 4th, 99719, Cahill Bros.; fifth, Sweet Cumberland, 86368, C. A. Saunders; sixth, Algor Dorothy, 89158, R. E. Watts & Sons; seventh, Mandolin 3rd, 86839, H. G. McMillan & Sons; eighth, Lavender Anoka 2nd, 100776, Cahill Bros.

Junior Yearling Heifer—First, Lady Cumberland, 86364, C. A. Saunders; second, Mildred Snowball, 86365, C. A. Saunders; third, Bonnie Cumberland 2nd, 86363, C. A. Saunders; fourth, Morning Butterfly, 81241, H. G. McMillian & Sons; fifth, Red Bell, 97913, Cahill Bros.; sixth, Dairy Maid 2nd, 97902, Cahill Bros.; seventh, Golden Girl, 104899, Wm. Herkelmann.



FIRST PRIZE TWO-YEAR-OLD SHORT-HORN BULL AND IOWA CHAMPION
Iowa State Fair and Exposition, 1911

Senior Heifer Calf—First, Maid of the Ring; C. A. Saunders; second, Bonnie Cumberland 3rd, C. A. Saunders; third, Princess Rose, 106081, D. Tietjen; fourth, Bonnie Cumberland 4th, C. A. Saunders; fifth, Lakewood Emma 5th, 107560, H. G. McMillan & Sons; sixth, Kitty Marr 4th, 107616, Cahill Bros.; seventh, Victoria Maid, 107621, Cahill Bros.; eighth, Fair Bell, 104898, Wm. Herkelmann.

Junior Heifer Calf—First, Scottish Cumberland 2nd, C. A. Saunders; second, Gipsey Cumberland 1st, C. A. Saunders; third, Dutchess of Gloster, 78, C. A. Saunders; fourth, Gipsey Cumberland 2nd, C. A. Saunders; fifth, Her Excellence, 106079, D. Tietjen; sixth, Acorn Lady, 99757, H. G. McMillan & Sons; seventh, Silver Girl, 106370, Wm. Milne; eighth, Sweet Fashion, Theo Martin.

Senior Champion Bull—Hampton's King, 216734, H. G. McMillan & Sons.

Junior Champion Bull—King Cumberland 2nd, 352076, H. H. Powell & Son.

Senior Champion Cow—Roan Fashion, 107083, R. E. Watts & Sons.

Junior Champion Cow—Lady Cumberland, 86364, C. A. Saunders.

Grand Champion Bull—Hampton's King, 216734, H. G. McMillan & Sons.

Grand Champion Cow—Lady Cumberland, 86364, C. A. Saunders.

Exhibitor's Herd—First, C. A. Saunders; second, H. G. McMillan & Sons; third, G. H. Burge; fourth, Cahill Bros.

Breeder's Young Herd—First, C. A. Saunders; second, C. A. Saunders; third, C. A. Saunders; fourth, Cahill Bros.; fifth, H. G. McMillan & Sons; sixth, Wm Herkelmann.

Calf Herd—First, C. A. Saunders; second, C. A. Saunders; third, C. A. Saunders; fourth, H. G. McMillan & Sons; fifth, Wm. Herkelmann; sixth, Cahill Bros.

Get of Sire—First, C. A. Saunders; second, C. A. Saunders; third, C. A. Saunders; fourth, H. G. McMillan & Sons; fifth, G. H. Burge; sixth, Cahill Bros.

Produce of Cow—First, C. A. Saunders; second, C. A. Saunders; third, C. A. Saunders; fourth, R. E. Watts & Sons; fifth, H. G. McMillan & Sons; sixth, Cahill Bros.

HEREFORD.

EXHIBITORS.

Wm. Andrews & Sons, Morse, Iowa; G. G. Clements, Ord, Nebraska; W. H. Campbell, Grand River, Iowa; J. P. Cudahy, Belton, Missouri; S. J. Gabbert, Dearborn, Missouri; O. S. Gibbons & Sons, Atlantic, Iowa; O. E. Green, Genoa, Nebraska; A. F. Hager, Avoca, Iowa; O. Harris, Harris, Missouri; Robert H. Hazlett, El Dorado, Kansas; E. W. Kreischer, Mt.

Vernon, Iowa; Makin Bros., Grandview, Missouri; Warren T. McCray, Kentland, Indiana; Cyrus A. Tow, Norway, Iowa; J. H. & J. W. Van Natta, LaFayette, Indiana; W. S. Van Natta & Son, Fowler, Indiana.

AWARDS.

JUDGE..................ROBT. D. MOUSEL, Cambridge, Nebr.

Bull Three Years or Over—First, Paragon 12th, 299116, Makin Bros.; Prime Lad 9th, 213963, W. S. Van Natta & Son; third, Fairfax 13th, 289868, Warren T. McCray; fourth, Prime Lad 38th, 261816, J. P. Cudahy; fifth, Distinction, 260718, Cyrus A. Tow; sixth, General G., 261924, O. S. Gibbons & Son; seventh, Beau Folly, 248132, S. J. Gabbert.

Bull Two Years and Under Three—First, Gay Lad 6th, 316936, O. Harris; second, Fairfax 16th, 316931, J. P. Cudahy; third, Beau Sturgess 2nd, 316605, Robt. H. Hazlett; fourth, Prime Lad 10th, 324668, W. S. Van Natta & Son; fifth, Parsifal 16th, 324422, O. E. Green; sixth, Freighter 8th, 328187, G. G. Clement; seventh, Polled Ito, 322141, Wm. Andrews & Son.

Senior Yearling Bull—First, Donald Lad 3rd, 344663, W. S. Van Natta & Son; second, Corrector Fairfax, 332653, J. P. Cudahy; third, Financier 2nd, 341212, Cyrus A. Tow; fourth, Beau Mischief 11th, 336945, O. E. Green; fifth, Western Boy 2nd, 341489, O. S. Gibbons & Son.

Junior Yearling Bull—First, Donald Lad 7th, 248415, W. S. Van Natta & Son; second, Byron Fairfax, 344282, Warren T. McCray; third, Sensation, 347577, G. G. Clement; fourth, Good Lad, 343996, O. S. Gibbons & Son; fifth, Young Gleed, 356409, J. P. Cudahy; sixth, Paragon 31st, 348986, Makin Bros.; seventh, Director, 349145, Cyrus A. Tow.

Senior Bull Calf—First, Donald Lad 9th, 370527, W. S. Van Natta & Son; second, Repeated, 359444, O. Harris; third, Paragon 32nd, 371616, Makin Bros.; fourth, Journal Prince, 368674, W. S. Van Natta & Son; fifth, Horace Gleed, 358392, J. P. Cudahy; sixth, Dismora, 364834, Cyrus A. Tow; seventh, Ringmaster, 364249, O. S. Gibbons & Son.

Junior Bull Calf—Panama Gay Lad, 365249, O. Harris; second, Bocaldo, 362186, Robt. H. Hazlett; third, Prince Donald, 370541, W. S. Van Natta & Son; fourth, Real Perfection, 363544, Warren T. McCray; fifth, Prime Grove, 369771, Wm. Andrews & Sons; sixth, Golden Triumph, 371908, O. E. Green.

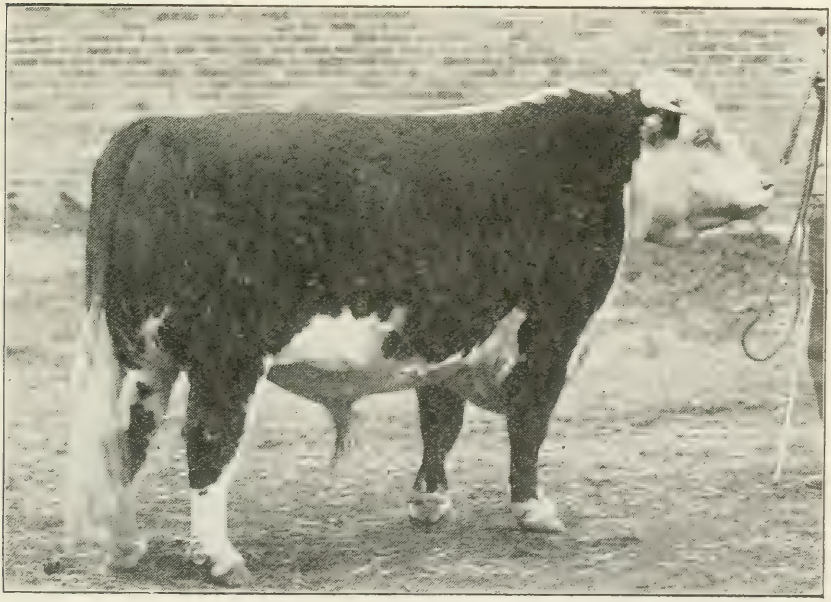
Cow Three Years or Over—First, Princess 16th, 288350, O. Harris; second, Lady Fairfax 4th, 265180, Warren T. McCray; third, Lady Fairfax 9th, 294557, Warren T. McCray; fourth, Miss Filler 2nd, 230514, S. J. Gabbert; fifth, Marcella, 234335, W. S. Van Natta & Son; sixth, Priscilla, 204713, O. S. Gibbons & Son; seventh, Queenly, 295583, G. G. Clement.

Heifer Two Years and Under Three—First, Scottish Lassie, 305352, J. P. Cudahy; second, Banza 316601, Robt. H. Hazlett; third, Prime

Lady 2nd, 324661, W. S. Van Natta & Son; fourth, Goodness 2nd, 324445, Makin Bros.; fifth, Lady Fairfax 12th, 316956, Warren T. McCray; sixth, Harris Princess 125th, 320357, O. Harris; seventh, Vanity Fair, 323192, G. G. Clement.

Senior Yearling Heifer—First, Daisy Fairfax, 332654, Warren T. McCray; second, Donald Lass 4th, 344666, W. S. Van Natta & Son; third, Belle Fairfax, 342052, J. P. Cudahy; fourth, Clematis 3rd, 348990, Makin Bros.; fifth, Stella, 344679, W. S. Van Natta & Son; sixth, Miss Annabel, 341213, Cryus A. Tow; seventh, Miss Laura B., 341215. Cyrus A. Tow.

Junior Yearling Heifer—First, Harris Princess 185th, 342335, O. Harris; second, Harris Princess 184, 342334, O. Harris; third, Sabetha Donald, 344293, Warren T. McCray; fourth, Lady Viola, 349149, Cryus A. Tow; fifth, Quintella, 351133, Robt. H. Hazlett; sixth, Martha Gleed, 356538, J. P. Cudahy; seventh, Constance, 347569, G. G. Clement.



GRAND CHAMPION HEREFORD BULL
Iowa State Fair and Exposition, 1911

Senior Heifer Calf—First, Princess Repeater, 359355, O. Harris; second, Donald Lass 9th, 370532, W. S. Van Natta & Son; third, Sonnet, 371913, G. G. Clement; fourth, Fleda, 362195, Robt. H. Hazlett; fifth, Miss Brummel, 364838, Cyrus A. Tow; sixth, Fairview Lass, 357284, Wm. Andrews & Sons; seventh, Domestic, 365034, Wm. Andrews & Sons.

Junior Heifer Calf—First, Celandine 2nd, 371605, Makin Bros.; second, Princess Repeater 3rd, 365253, O. Harris; third, Spring Beauty, 370546, W. S. Van Natta & Son; fourth, Virginia Fairfax, 363557, Warren T.

McCray; fifth, Folly's Frolic, 365826, S. J. Gabbert; sixth, Marjorie, 371910, G. G. Clement; seventh, Idylette, 362200, Robt. H. Hazlett.

Senior Champion Bull—Gay Lad 6th, 316936, O. Harris.

Junior Champion Bull—Donald Lad 3rd, 344663, W. S. Van Natta & Son.

Senior Champion Cow—Princess 16th, 288350, O. Harris.

Junior Champion Cow—Harris Princess 185th, 342335, O. Harris.

Grand Champion Bull—Gay Lad 6th, 316936, O. Harris.

Grand Champion Cow—Princess 16th, 288350, O. Harris.

Exhibitor's Herd—First, O. Harris; second, W. S. Van Natta & Son; third, Makin Bros.; fourth, Warren T. McCray; fifth, J. P. Cudahy; sixth, G. G. Clement; seventh, Cyrus A. Tow.

Breeder's Young Herd—First, O. Harris; second, W. S. Van Natta & Son; third, Warren T. McCray; fourth, Robert H. Hazlett; fifth, G. G. Clement; sixth, J. P. Cudahy; seventh, Makin Bros.

Calf Herd—First, O. Harris; second, W. S. Van Vatta & Son; third, Robt. H. Hazlett; fourth, Makin Bros.; fifth, Warren T. McCray; sixth, J. P. Cudahy; seventh, G. G. Clement.

Get of Sire—First, Warren T. McCray; second, Makin Bros.; third, W. S. Van Natta & Son; fourth, J. P. Cudahy; fifth, Robt. H. Hazlett; sixth, O. Harris; seventh, S. J. Gabbert.

Produce of Cow—First, Warren T. McCray; second, W. S. Van Natta & Son; third, O. Harris; fourth, Robt. H. Hazlett; fifth, Makin Bros.; sixth, G. G. Clement; seventh, O. S. Gibbons & Son.

IOWA HEREFORD SPECIALS.

Bull Three Years or Over—First, Distinction, 260718, Cyrus A. Tow; second, General G., 261924, O. S. Gibbons & Son; third, Young Albany, 290216, E. W. Kreischer; fourth, St. Elmo R. 265716, A. F. Hager; fifth, Success, 300915, E. W. Kreischer.

Bull Two Years and Under Three—First, Polled Ito, 322148, Wm. Andrews & Sons.

Senior Yearling Bull—First, Financier 2nd, 341212, Cyrus A. Tow; second, Weston Boy 2nd, 341489, O. S. Gibbons & Son.

Junior Yearling Bull—First, Good Lad, 343996, O. S. Gibbons & Son; second, Director, 349145, Cyrus A. Tow; third, Beau General, 368964, O. S. Gibbons; fourth, Bonnie Brae 30th, 342541, E. W. Kreischer; fifth, St. Elmo 13th, 357879, A. F. Hager.

Senior Bull Calf—First, Dismora, 364834, Cyrus A. Tow; second, Ringmaster, 364249, O. S. Gibbons & Son; third, Carnot, 364246, O. S. Gibbons & Son; fourth, Disturber 4th, 364835, Cyrus A. Tow; fifth, Prime Minister, 358488, Wm. Andrews & Son.

Junior Bull Calf—First, Prime Grove, 369871, Wm. Andrews & Son; second, Fairview Prince, 369476, Cyrus A. Tow; third, Beau Patrick, 370338, O. S. Gibbons; fourth, Beau General 2nd, 370336, O. S. Gibbons.

Cow Three Years or Over—First, Priscilla, 204713, O. S. Gibbons; second, Crocus 2nd, 203169, Wm. Andrews & Sons; third, Princess 2nd, 264207, Cyrus A. Tow; fourth, Spray, 289600, E. W. Kreischer; fifth, Lady Real 7th, 150065, A. F. Hager.

Heifer Two Years and Under Three—First, Princeps Maiden, O. S. Gibbons; second, Disturber's Queen 2nd, 325351, Cyrus A. Tow; third, Priscilla 3rd, 336435, Wm. Andrews & Sons; fourth, Diamond's Maid 2nd, 320887, E. W. Kreischer; fifth, Pretty Face, 332493, A. F. Hager.

Senior Yearling Heifer—First, Miss Annabel, 341213, Cyrus A. Tow; second, Miss Laura B., 341215, Cyrus A. Tow; third, Carnette, 340292, O. S. Gibbons & Sons; fourth, Clover Blossom, 342033, Wm. Andrews & Sons; fifth, Miss Brae 25th, 342544, E. W. Kreischer.

Junior Yearling Heifer—First, Lady Viola, 349149, Cyrus A. Tow; second, Charlotte, 343082, Wm. Andrews & Sons; third, Blanche, 342031, Wm. Andrews & Sons; fourth, Disturber's Lassie, 4th, 349146, Cyrus A. Tow; fifth, Pansy Bell 3rd, 346552, O. S. Gibbons & Son.

Senior Heifer Calf—First, Miss Brummel, 364838, Cyrus A. Tow; second, Fairview Lass, 357284, Wm. Andrews & Sons; third, Domestic, 365034, Wm. Andrews & Sons; fourth, Pansy Belle 4th, 364248, O. S. Gibbons & Son; fifth, Fairview Lass, 364579, Cyrus A. Tow.

Junior Heifer Calf—First, Jennie Grove, 369865, Wm. Andrews & Sons; second, Miss Creamy, 369361, Cyrus A. Tow; third, Astor Grove, 369861, Wm. Andrews & Sons.

Senior Champion Bull—Distinction, 260718, Cyrus A. Tow.

Junior Champion Bull—Financier 2nd, 341212, Cyrus A. Tow.

Senior Champion Cow—Princeps Maiden, 323658, O. S. Gibbons & Son.

Junior Champion Cow—Lady Viola, 349149, Cyrus A. Tow.

Grand Champion Bull—Finacier 2nd, 341212, Cyrus A. Tow.

Grand Champion Cow—Dismora, 364834, Cyrus A. Tow.

Exhibitor's Herd—First, Cyrus A. Tow, second, O. S. Gibbons & Son; third, Wm. Andrews & Sons; fourth, E. W. Kreischer.

Breeder's Young Herd—First, O. S. Gibbons & Son; second Wm. Andrews & Sons.

Calf Herd—First, Wm. Andrews & Sons; second, O. S. Gibbons & Son.

Get of Sire—First, Cyrus A. Tow; second, Wm. Andrews & Son; third, O. S. Gibbons & Son; fourth, Cyrus A. Tow.

Produce of Cow—First, O. S. Gibbons & Son; second, Wm. Andrews & Son; third, O. S. Gibbons & Son.

ABERDEEN-ANGUS.

EXHIBITORS.

R. M. Anderson & Sons, Newell, Iowa; J. V. Arney, Leon, Iowa; Matt Baker, Mitchellville, Iowa; Otto V. Battles, Maquoketa, Iowa; A. C. Binnie, Alta, Iowa; W. A. McHenry, Denison, Iowa; W. J. Miller, Newton, Iowa.

AWARDS.

JUDGE..................DR. H. M. BROWN, Hillsboro, Ohio.

Bull Three Years or Over—First, Quality Prince, 117284, W. A. McHenry; second, Thickset Blackbird, 115895, Otto V. Battles; third, Ernest, 91016, W. J. Miller; fourth, Bonnie Ben Royal, 95006, R. M. Anderson & Sons.

Bull Two Years and Under Three—First, Kloman, 135617, A. C. Binnie; second, St. Blaise, 130837, Otto V. Battles; third, Enus, 139634, R. M. Anderson & Sons; fourth, Black Opal, 125453, Matt Baker.

Senior Yearling Bull—First, Protine, 138372, W. A. McHenry; second, Black Pridewood, 137275, A. C. Binnie; third, Barbara's Pico, 138385, W. A. McHenry; fourth, Balmot, 130477, Otto V. Battles; fifth, Minden of View Point 3rd, 139066, W. J. Miller; sixth, Ebony of A., 135657, J. V. Arney.

Junior Yearling Bull—First, Peter Pan of Alta, 140526, A. C. Binnie; second, Black King of Rosemere, 137159, Otto V. Battles; third, Enus 2nd, 140648, R. M. Anderson & Sons; fourth, Questman 4th, 140525, A. C. Binnie.

Senior Bull Calf—First, Marguerite's Lad, Otto V. Battles; second, Proud Thickset, 149389, W. A. McHenry; third, Rosegay 6th, 142883, W. J. Miller; fourth, Elbony of A 2nd, 148065, J. V. Arney; fifth, St. Elmo A., 150050, R. M. Anderson & Sons; sixth, Jussien 2nd, 150049, R. M. Anderson & Sons.

Junior Bull Calf—First, Enus 3rd, 150053, R. M. Anderson & Sons; second, Krist Kringle, A. C. Binnie; third, Princeton, A. C. Binnie; fourth, Ernest 2nd, W. J. Miller.

Cow Three Years or Over—First, Barbara McHenry 24th, 104144, W. A. McHenry; second, Black Eileen, 115897, Otto V. Battles; third, Snowflake's Queen 2nd, 106543, W. J. Miller; fourth, Ethelda D. 95185, W. J. Miller; fifth, Pride of Elchies 12, 116879, R. M. Anderson; sixth, Princess of the Woods, 113354, A. C. Binnie.

Heifer Two Years and Under Three—First, Barbara Woodson, 129611, W. J. Miller; second, Pride of Alta, 12th, 129497, W. A. McHenry; third, Thickset Myra, 129083, Otto V. Battles; fourth, Eileen of Alta, 129498, A. C. Binnie; fifth, Glenmere Irene, 130544, Otto V. Battles; sixth, Entange of Arndale, 121562, J. V. Arney; seventh, Bell Eclipser of Newell, 131046, R. M. Anderson; eighth, Esmerald 5th, 139632, R. M. Anderson & Sons.

Senior Yearling Heifer—First, Blackcap McHenry 84th, 138378, W. A. McHenry; second, Queen of Rosemere, 131206, Otto V. Battles; third, Abbess of Alta, 140517, A. C. Binnie; fourth, Pride McHenry 85th, 138638, W. A. McHenry; fifth, Proud Formera 2nd, 137237, A. C. Binnie; sixth, Key of Des Moines 2nd, 139929, W. J. Miller; seventh, Queen of Leon 2nd, 135656, J. V. Arney.

Junior Yearling Heifer—First, Blackcap McHenry 88th, 138394, W. A. McHenry; second, Eileen of Alta 2nd, 140528, A. C. Binnie; third, Rose of Rosemere, 137157, Otto V. Battles; fourth, Bonnie of Rosemere, 139871, Otto V. Battles; fifth, Metz Beauty 9th, 141744, W. J. Miller; sixth, Pride of Blackstone 3rd, 139639, R. M. Anderson & Sons; seventh, Pride of Elchies 18th, 139638, R. M. Anderson & Sons; eighth, Blackbird Missie A., 148060, J. V. Arney.

GRAND CHAMPION ANGUS COW
Iowa State Fair and Exposition, 1911

Senior Heifer Calf—First, Pride McHenry 97th, 149358, W. A. McHenry; second, Metz Black Bird 8th, 149508, W. J. Miller; third, Myra of Rosemere, Otto V. Battles; fourth, Pride McHenry 100th, 149362, W. A. McHenry; fifth, Metz Pride 5th, 149507, W. J. Miller; sixth, Katrine of A., 148063, J. V. Arney; seventh, Abbess of Alta 2nd, A. C. Binnie; eighth, Key of Indianapolis 4th, 150048, R. M. Anderson & Sons.

Junior Heifer Calf—First, Barbara 3rd of Rosemere, Otto V. Battles; second, Black Cap of A., J. V. Arney; third, Blackbird 100th, 150051, R. M. Anderson & Son; fourth, Katy Key Mura, W. J. Miller; fifth, Blackbird of Alta 18th, A. C. Binnie.

Senior Champion Bull—Kloman, 135617, A. C. Binnie.

Junior Champion Bull—Protine, 138372, W. A. McHenry.

Senior Champion Cow—Barbara Woodson, 129611, W. J. Miller.

Junior Champion Cow—Blackcap McHenry 84th, 138378, W. A. McHenry.

Grand Champion Bull—Kloman, 135617, A. C. Binnie.

Grand Champion Cow—Barbara Woodson, 129611, W. J. Miller.

Exhibitor's Herd—First, W. A. McHenry; second, Otto V. Battles; third, A. C. Binnie; fourth, W. J. Miller; fifth, R. M. Anderson & Sons.

Breeder's Young Herd—First, W. A. McHenry; second, Otto V. Battles; third, A. C. Binnie; fourth, W. J. Miller; fifth, R. M. Anderson & Son; sixth, J. V. Arney.

Calf Herd—First, W. A. McHenry; second, Otto V. Battles; third, W. J. Miller; fourth, R. M. Anderson & Sons; fifth, J. V. Arney; sixth, A. C. Binnie; seventh, A. C. Binnie.

Get of Sire—First, W. A. McHenry; second, A. C. Binnie; third, Otto V. Battles; fourth, R. M. Anderson & Sons; fifth, W. J. Miller; sixth, A. C. Binnie; seventh, J. V. Arney.

Produce of Cow—First, Otto V. Battles; second, Otto V. Battles; third, W. A. McHenry; fourth, A. C. Binnie; fifth, A. C. Binnie; sixth, J. V. Arney; seventh, W. J. Miller.

GALLOWAY.

EXHIBITORS.

C. S. Hechtner, Chariton, Iowa; A. O. Huff, Arcadia, Nebraska; Isaac Lincoln, Aberdeen, S. Dakota; Straub Bros., Avoca, Nebraska.

AWARDS.

JUDGE..................CHAS. ESCHER, JR., Botna, Iowa.

Bull Three Years or Over—First, Douglas of Meadowlawn, 30618, C. S. Hechtner; second, Evaline's Sampson, 32255, C. S. Hechtner; third, Secretary of Crossless, 30939, Isaac Lincoln; fourth, Meadowlawn Crusader, 32210, A. O. Huff; fifth Eloquent, 35186, Straub Bros.

Bull Two Years and Under Three—First, Marquis, 34815, Straub Bros.; second, Meckline of L. F., 34575, Isaac Lincoln; third, Millard of L. F., 34573, Isaac Lincoln.

Bull One Year and Under Two—First, Viscount 2nd, 35181, Straub Bros.; second, Fearnot of Maples, 35166, C. S. Hechtner; third, Choice Master, 35185, Straub Bros.; fourth, Royal Douglas, 35383, A. O. Huff; fifth, Leonard of L. F., 35241, Isaac Lincoln.

Senior Bull Calf—First, Quartermaster, 36225, Straub Bros.; second, Mack Croff, A. O. Huff; third, Prince Favorite, C. S. Hechtner.

Junior Bull Calf—First, Fortunater, 36226, Straub Bros.; second, King Favorite, C. S. Hechtner; third, Tona Hawkeye, A. O. Huff.

Cow Three Years or Over—First, Capitaline, 35178, Straub Bros.; second, Floss 2nd of Meadowlawn, 28741, C. S. Hechtner; third, Florence of Meadowlawn, 32316, C. S. Hechtner; fourth, Bessie of Maples, 32252, C. S. Hechtner; fifth, Locksley Miss, 22956, Isaac Lincoln.

Heifer Two Years and Under Three—First, Ladylike, 34014, Straub Bros.; second, Elizabeth 3rd, 34061, C. S. Hechtner; third, Lady Love of Maples, 33977, C. S. Hechtner; fourth, Modesty 2nd, 34931, Straub Bros.; fifth, Careful of Maples 2nd, 33976, C. S. Hechtner.

Senior Yearling Heifer—First, Daisy Dimple, 35187, Straub Bros.; second, Miss Stanley 4th of Maples, 33980, C. S. Hechtner; third, Nellie Douglas, 35279, C. S. Hechtner; fourth, Sunbeam, 35640, A. O. Huff; fifth, Martha of L. F., 34576, Isaac Lincoln.

Junior Yearling Heifer—First, Nellie of Maples, 35168, C. S. Hechtner; second, Merry Lady, 36183, Straub Bros.; third, Miss Stanley 5th, 35164, Straub Bros.; fourth, Polly of L. F., 35239, Isaac Lincoln; fifth, Nelly Lilly 4th, 36182, A. O. Huff.

Senior Heifer Calf—First, Marianne, 26221, Straub Bros.; second, Careful of Maples 3rd, C. S. Hechtner; third, Clara of Maples 3rd, C. S. Hechtner; fourth, Jolly of L. F., 36201, Isaac Lincoln; fifth, Lillie Wistful, A. O. Huff.

Junior Heifer Calf—First, Myrtle of Maples, C. B. Hetchner; second, Nellie Melville, 26223, Straub Bros.; third, Lady Sampson, C. S. Hechtner; fourth, Little Mary of L. F., 36204, Isaac Lincoln; fifth, Dainty Violez, A. O. Huff.

Senior Champion Bull—Douglas of Meadowlawn, 30618, C. S. Hechtner.

Junior Champion Bull—Viscount 2nd, 35181, Straub Bros.

Senior Champion Cow—Ladylike, 34014, Straub Bros.

Junior Champion Heifer—Daisy Dimple, 35187, Straub Bros.

Grand Champion Bull—Viscount 2nd, 35181, Straub Bros.

Grand Champion Cow—Ladylike, 34014, Straub Bros.

Exhibitor's Herd—First, Straub Bros.; second, C. S. Hechtner; third, C. S. Hechtner; fourth, Isaac Lincoln; fifth, A. O. Huff.

Breeder's Young Herd—First, Straub Bros.; second, C. S. Hechtner; third, C. S. Hechtner; fourth, A. O. Huff; fifth, Isaac Lincoln.

Get of Sire—First, Straub Bros.; second, C. S. Hechtner; third, C. S. Hechtner; fourth, Straub Bros.; fifth, Isaac Lincoln.

Produce of Cow—First, Straub Bros.;, second, Straub Bros.; third, C. S. Hechtner; fourth, C. S. Hechtner; fifth, C. S. Hechtner.

POLLED DURHAM.

EXHIBITORS.

E. J. Augsperger, Pulaski, Iowa; L. S. Huntley & Son, Chariton, Iowa; Leemon Stock Farm, Hoopeston, Illinois, J. H. Miller, Peru, Indiana; W. W. Seeley, Stuart, Iowa; Walker Bros., Ord, Nebraska; J. J. Williams & Son, Grandview, Iowa; James Wilson & Sons, Avoca, Iowa.

AWARDS.

JUDGE...........PROF. ANDREW BOSS, St. Anthony Park, Minn.

Bull Three Years or Over—First, The Confessor, 284217, J. H. Miller; second, Buttonwood Tip 2nd, 5016, J. H. Miller; third, Cupbearer Prize, 6468, 295077, Walker Bros.; fourth, Royal D., 318312 (6549), W. W. Seeley; fifth, Cragg's Hero, 286410 (5956), Leemon Stock Farm.

Bull Two Years and Under Three—First, Secret Victor, 322861, J. H. Miller.

Bull One Year and Under Two—First, Sultan's Creed, J. H. Miller; second, Silver Secret, 339882, J. H. Miller; third, Royal Victor 8631 (351852), J. Wilson & Son; fourth, Golden Hero, Jr., 8002, Walker Bros.; fifth, Royal Butterfly, 8630, (351851), J. Wilson & Son.

Senior Bull Calf—First, Meadow Sultan, J. H. Miller; second, Miami Sultan, J. H. Miller; third, Red Marshall, J. H. Miller; fourth, Wanderer's Sultan, J. H. Miller; fifth, Grand Strathern 8632 (351850), Jas. Wilson & Sons.

Junior Bull Calf—First, Select Goods, J. H. Miller; second General Nelson, Walker Bros.; third, Cragg's Archer 2nd, 8697, Leemon Stock Farm; fourth, Baun Cragg 2nd, 8698, Leemon Stock Farm.

Cow Three Years or Over—First, Queen of Miami 5th, 29818, J. H. Miller; second, Wanderer's Violet, 68622, J. H. Miller; third, Princess Lavender, 45th (Vol. 55), Jas Wilson & Sons; fourth, Queen Mabel, Walker Bros.; fifth, Lady Marshall, 99003, J. H. Miller.

Heifer Two Years and Under Three—First, Lady Craven, 68618, J. H. Miller; second, Nora Marshall, 99006, J. H. Miller; third, Lady Purity, 70975, J. H. Miller; fourth, Cragg's Beauty (Vol. 5), Leemon Stock Farm; fifth, Hero's Lady, Walker Bros.

Senior Yearling Heifer—First, Queenly, 99007, J. H. Miller; second, 4th Miami Sweetbrier, 89939, J. H. Miller; third, Wistful 2nd, (Vol. 5), J. J. Williams & Son; fourth, 37th Lady, 99701 (Vol. 5), J. J. Williams & Son; fifth, Kucklevington Dutchess (Vol. 5), Leemon Stock Farm.

Junior Yearling Heifer—First, 20th Miami Victoria, J. H. Miller; second, Lady Sultana, 89937, J. H. Miller; third, Mazurka Marvel, Walker Bros.; fourth, Miss Charming, Walker Bros.; fifth, Sylvanite, Walker Bros.

Senior Heifer Calf—First, Serene 2nd, J. J. Williams & Son; second, Aurora Belle, Walker Bros.; third, 21st Miami Victoria, J. H. Miller; fourth, 39th Favorite, 105948, J. J. Williams & Son; fifth, 42nd Lady, 105949, J. J. Williams & Son.

Junior Heifer Calf—First, Miss Modesty, Walker Bros.; second, Seraphina Lady 2nd, J. H. Miller; third, Secret Sultana, J. H. Miller; fourth, 23rd Miami 7th, J. H. Miller; fifth, My Lady, J. J. Williams & Son.

Senior Champion Bull—The Confessor, 284217, J. H. Miller.

Junior Champion Bull—Sultan's Creed, J. H. Miller.

Senior Champion Cow—Queen of Miami 5th, 29818, J. H. Miller.

Junior Champion Heifer—20th Miami Victoria, J. H. Miller.

Grand Champion Bull—The Confessor, 284217, J. H. Miller.

Grand Champion Cow—Queen of Miami 5th, 29818, J. H. Miller.

Exhibitor's Herd—First, J. H. Miller; second, J. H. Miller; third, J. H. Miller; fourth, Walker Bros.; fifth, Leemon Stock Farm.

Breeder's Young Herd—First, J. H. Miller; second, Walker Bros.; third, Jas. Wilson & Sons; fourth, J. J. Williams & Son.

Get of Sire—First, J. H. Miller; second, J. H. Miller; third, Jas. Wilson & Sons; fourth, J. H. Miller, fifth, Walker Bros.

Produce of Cow—First, J. H. Miller; second, J. H. Miller; third, Walker Bros.; fourth, Jas. Wilson & Sons; fifth, J. H. Miller.

RED POLLED.

EXHIBITORS.

Frank J. Clouss, Barnum, Iowa; C. W. Connell & Sons, Joliet, Illinois; Davis & Haussler, Holbrook, Nebraska; W. S. Hill, Alexandria, South Dakota; Joseph Kestel, New Lenox, Illinois; F. W. Lahr, Brooks, Iowa; J. W. Larrabee, Earlville, Illinois.

AWARDS.

JUDGE........................C. D. BELLOWS, Maryville, Mo.

Bull Three Years or Over—First, Logan, 13500, Frank J. Clouss; second, Teddy's Best, 17603, Davis & Haussler; third, Rutland, 16053, W. S. Hill; fourth, Marker, 16875, Jos. Kestel; fifth, Taft, 18203, C. W. Connell & Sons.

Bull Two Years and Under Three—First, Reo, 18766, Davis & Haussler; second, Homer, 19988, W. S. Hill; third, Sampson, 18879, J. W. Larrabee; fourth, Leader, 19951, C. W. Connell & Sons.

Bull One Year and Under Two—First, Meddler, 20230, W. S. Hill; second, Burton, 21870, W. S. Hill; third, Sir William, 19872, J. W. Larrabee; fourth, Minor, 20994, Frank J. Clouss; fifth, Emerson, 21224, W. S. Hill.

Senior Bull Calf—First, Leo, 21230, W. S. Hill; second, Paul 20995, Frank J. Clouss; third, Ringland, 20999, Frank J. Clouss; fourth, Leader, 20954, Davis & Haussler; fifth, Jay Rose, 21041, J. W. Larrabee.

Junior Bull Calf—First, Charmer, Davis & Haussler; second, Nailor, Davis & Haussler; third, Quantity, Frank J. Clouss; fourth, Cy. Young, C. W. Connell & Sons.

Cow Three Years or Over—First, Inez, 23477, W. S. Hill; second, Davy Belle 3rd, 22558, J. W. Larrabee; third, Dewdrop, 21054, Davis & Haussler; fourth, Nancy, 20169, W. S. Hill; fifth, Labyrinth 5th, 25101, C. W. Connell & Sons.

Heifer Two Years and Under Three—First, Florence, 29854, W. S. Hill; second, Becky, 31848, W. S. Hill; third, Inas, 30468, Davis & Haussler; fourth, Beauty, 30221, Davis & Haussler; fifth, Ruth, 29686, Frank J. Clouss.

Senior Yearling Heifer—First, Jane, 32329, Frank J. Clouss; second, Sunflower, 31856, W. S. Hill; third, Victorine, 33276, W. S. Hill; fourth, Gazzell, 32011, Davis & Haussler; fifth, Blossom Belle, 32435, C. W. Connell & Sons.

Junior Yearling Heifer—First, Lady Dortha 2d 32349, Davis & Haussler; second, Valantine Lady, 32352, Davis & Haussler; third, Eva, 33289, W. S. Hill; fourth, Primrose, 32847, Davis & Haussler; fifth, Davy Belle 4th, 31633, J. W. Larrabee.

Senior Heifer Calf—First, Amelia, 33292, W. S. Hill; second, Christmas Belle, Davis & Haussler; third, Pauline, 32897, Frank J. Clouss; fourth, Jennie, 32845, Davis & Haussler; fifth, Glendolin, 33291, W. S. Hill.

Junior Heifer Calf—First, Miss Cremo 32, Davis & Haussler; second, Easter Blossom, Davis & Haussler; third, Quality, Frank J. Clouss; fourth, Elizabeth Ann, 33994, J. W. Larrabee; fifth, Queen Lady, C. W. Connell & Sons.

Senior Champion Bull—Logan, 13500, Frank J. Clouss.

Junior Champion Bull—Meddler, 20230, W. S. Hill.

Senior Champion Cow—Inez, 23477, W. S. Hill.

Junior Champion Heifer—Lady Dortha 2nd, 32349, Davis & Haussler.

Grand Champion Bull—Logan, 13500, Frank J. Clouss.

Grand Champion Cow—Lady Dortha 2nd, 32349, Davis & Haussler.

Exhibitor's Herd—First, W. S. Hill; second, Davis & Haussler; third, Frank J. Clouss; fourth, W. S. Hill; fifth, Davis & Haussler.

Breeder's Young Herd—First, Davis & Haussler; second, W. S. Hill; third, Davis & Haussler; fourth, Frank J. Clouss; fifth, J. W. Larrabee.

Get of Sire—First, Davis & Haussler; second, W. S. Hill; third, Davis & Haussler; fourth, Frank J. Clouss; fifth, W. S. Hill.

Produce of Cow—First, W. S. Hill; second, Davis & Haussler; third, Frank J. Clouss; fourth, W. S. Hill; fifth, C. W. Connell & Sons.

HOLSTEIN.

EXHIBITORS.

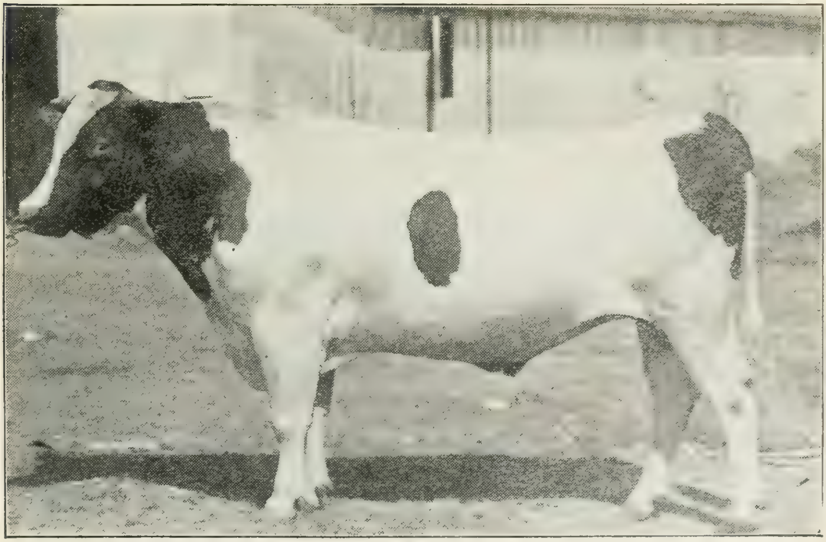
C. A. Nelson, Waverly, Iowa; H. J. Hemmerling, Dike, Iowa; J. L. Hoak, Des Moines, Iowa; H. H. Schroedermeier, Waverly, Iowa; Frank White, Hampton, Iowa.

AWARDS.

JUDGE......................PROF. H. H. KILDEE, Ames, Iowa.

Bull Three Years or Over—First, Groveland Inka Hijlaard, 57856, Frank White.

Bull Two Years and Under Three—First, Buffalo Skylark Ames, 56894, H. H. Schroedermeier; second, Buffalo Bladesdales, Frank White; third, Colantha 4th's Lad DeKol, 60666, J. L. Hoak.



CHAMPION HOLSTEIN BULL
Iowa State Fair and Exposition, 1911

Bull One Year and Under Two—First, Hengerveld King, 73774, C. A. Nelson; second, Groveland Sir Pontiac Inka, Frank White; third, Sunny Lad, H. J. Hemmerling.

Bull Calf Under One Year—First, Model Skylark of Cedarside, C. A. Nelson; second, Corrector Piebe De Kol, H. J. Hemmerling; third, Sir Dutchland, 82292, C. A. Nelson; fourth, King Alcartra Piebe DeKol, H. J. Hemmerling; fifth, Groveland Sir Clothilde Inka, Frank White.

Cow Four Years or Over—First, Lady Ona Hijlaard, 58193, Frank White; second, Pauline Witkop Netherland, 78122, Frank White.

Cow Three Years and Under Four—First, Groveland Pauline Posch, 102357, Frank White.

Heifer Two Years and Under Three—First, Chole Artis Jewel of Cedarside, 120932, C. A. Nelson; second, Groveland Johanna Witkop, 137140, Frank White.

Heifer One Year and Under Two—First, Groveland Idske Pontiac, 137138, Frank White; second, Groveland Pontiac Hijlaard, 137139, Frank White; third, Colantha Johanna of Cedarside, 152087, C. A. Nelson; fourth, Jewel Abbekirk Gerben 2nd, 131708, C. A. Nelson; fifth, Groveland Witkop Inka, Frank White.

Heifer Calf Under One Year—First, Jewel Abbekirk Gerben 3rd, 156624, C. A. Nelson; second, Groveland Mercedes Inka, Frank White; third, Groveland DeKol Inka, Frank White; fourth, Sweet Alice Gerben of Cedarside, 156626, C. A. Nelson; fifth, Lucinda Aaggie De Kol of Cedarside, C. A. Nelson; sixth, Groveland Pauline Posch 2nd, Frank White.

Senior Champion Bull—Groveland Inka Hijlaard, 57856, Frank White.

Junior Champion Bull—Hengerveld King, 73774, C. A. Nelson.

Senior Champion Cow—Lady Ona Hijlaard, 58193, Frank White.

Junior Champion Heifer—Jewel Abbekirk Gerben 3rd, 156624, C. A. Nelson.

Grand Champion Bull—Groveland Inka Hijlaard, 57856, Frank White.

Grand Champion Cow—Lady Ona Hijlaard, 58193, Frank White.

Exhibitor's Herd—First, Frank White.

Breeder's Young Herd—First, C. A. Nelson; second, Frank White.

Get of Sire—First, C. A. Nelson; second, Frank White; third, Frank White.

Produce of Cow—First, Frank White; second, C. A. Nelson; third, Frank White; fourth, H. J. Hemmerling.

JERSEY.

EXHIBITORS.

E. Bruins, Fairwater, Wisconsin; Burweb Farm, Minneapolis, Minnesota; G. A. Chaffee, Minneapolis, Minnesota; B. J. Evans, Minneapolis, Minnesota; Chas. Howell, Rockford, Iowa; Geo. S. Redhead, Des Moines, Iowa; Smith & Roberts, Beatrice, Nebraska.

AWARDS.

JUDGE......................PROF. H. H. KILDEE, Ames, Iowa.

Bull Three Years or Over—First, Beauvoire's King, 88006, E. Bruins; second, Combination Golden Prince, 79767, G. Chaffee; third, Stockwell's Fern Lad, 87843, Smith & Roberts.

Bull Two Years Old and Under Three—First, Eminent's Jubilee, 87283, Burweb Farm; second, Oxford Warder, 89840, Smith & Roberts; third, Panola's Ibsen, 93275, E. Bruins; fourth, Golden Stockwell, 86344, G. Chaffee; fifth, Sigoona Lad, Geo. S. Redhead.

Bull One Year Old and Under Two—First, Ibsen's Glory 92986, E. Bruins; second, Eminent Cupid, 88741, Burweb Farm; third, Oxford's Derry Fox, 95360, Burweb Farm; fourth, Dreamwold's Western Fox, 95360, Burweb Farm; fifth, Raleigh's Wonder, 91140, Geo. S. Redhead.

Bull Calf Under One Year—First, Silverine's Admirer, 91076, Smith & Roberts; second, Combination Golden Champion, 98877, G. A. Chaffee; third, Hebron's Champion, Smith & Roberts; fourth, Golden Chance's Majesty, E. Bruins; fifth, Leda's Combination Golden Prince, 98879, G. A. Chaffee.

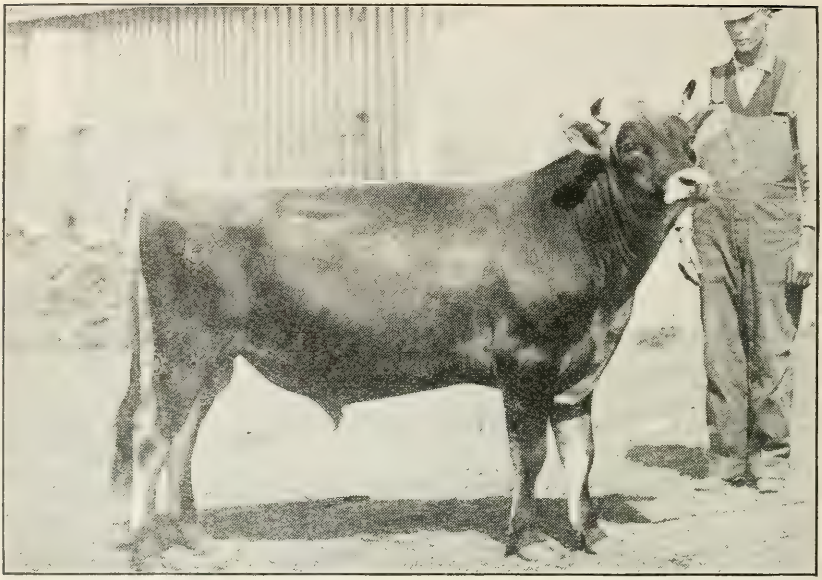
Cow Four Years or Over—First, Mayflower's Glory, 222107, E. Bruins; second, Dixon's Susitania, 234548, Burweb Farm; third, Sweet Myrtle 3rd, 14184, G. A. Chaffee; fourth, Mourier Lass, 234539, E. Bruins; fifth, Pedro's Lovely, 166873, Smith & Roberts; sixth, Golden Jolly's Secret, 203659, Smith & Roberts.

Cow Three Years and Under Four—First, Burweb's Night Dream, 258203, Burweb Farm; second, Silverine's Brown Lady, 219449, Smith & Roberts; third, Coulisse of Oakland, 246589, G. A. Chaffee; fourth, Champion's Golden Pet, 21566, G. A. Chaffee.

Heifer Two Years and Under Three—First, Harbinger's Lass, 234554, E. Bruins; second, Blanco's Pride, E. Bruins; third, Belmont's Minnie, 244331, Smith & Roberts; fourth, Burweb's Silver Pride, 258204, Burweb Farm; fifth, Italian Snowdrop, E. Bruins.

Heifer One Year and Under Two—First, Merline Isben, 246596, Burweb Farm; second, Belmont's Lady Bug, 248718, Smith & Roberts; third, Combination Golden Princess Mayfern, 259168, G. A. Chaffee; fourth, Morny Beauvoir 2nd, 246597, E. Bruins; fifth, Guenon's Happy Time, 250410, E. Bruins.

Heifer Calf Under One Year—First, Warder's Fair One, Smith & Roberts; second, ————; third, Olga's Blanche, 258374, Chas. Howell; fourth, Belmont's Fairy, Smith & Roberts; fifth, Fawn of Easter's Eminent, 258426, Burweb Farm.



GRAND CHAMPION JERSEY BULL
Iowa State Fair and Exposition, 1911

Senior Champion Bull—Eminent's Jubilee, 87238, Burweb Farm.

Junior Champion Bull—Isben's Glory, 92986, E. Bruins.

Senior Champion Cow—Mayflower's Glory, 222107, E. Bruins.

Junior Champion Heifer—Warder's Fair One, Smith & Roberts.

Grand Champion Bull—Ibsen's Glory, 92986, E. Bruins.

Grand Champion Cow—Mayflower's Glory, 222107, E. Bruins.

Exhibitor's Herd—First, E. Bruins; second, Burweb Farm; third, Smith & Roberts; fourth, G. A. Chaffee; fifth, E. Bruins.

Breeder's Young Herd—First, Smith & Roberts; second, E. Bruins; third, G. A. Chaffee; fourth, Chas. Howell; fifth, Geo. S. Redhead.

Get of Sire—First, Smith & Roberts; second, E. Bruins; third, G. A. Chaffee; fourth, E. Bruins; fifth, Chas Howell.

Produce of Cow—First, Smith & Roberts; second, Smith & Roberts; third, G. A. Chaffee; fourth, E. Bruins; fifth, Geo. S. Redhead.

GUERNSEY.

EXHIBITORS.

A. W. & F. E. Fox, Waukesha, Wisconsin; Iowa Dairy Farm, Waterloo, Iowa; F. L. Kerr, Manilla, Iowa; M. T. Phillips, Pomeroy, Pennsylvania; Wilcox & Stubbs, Des Moines, Iowa.

AWARDS.

JUDGE........E. P. GROUT, University Farm, St. Paul, Minn.

Bull Three Years or Over—First, Glenwood's Combination 5th, 11354, A. W. & F. E. Fox; second, Imp. Holden 4th, 12197, Wilcox & Stubbs; third, King Talladeen of Chestnut Hill, 13460, A. W. & F. E. Fox; fourth, Imp. Young Hero, 12181, Wilcox & Stubbs.

Bull Two Years and Under Three—First, Langwater Royal, 14253, M. T. Phillips; second, Lord Mar of Manor, 2373, Iowa Dairy Farm; third, Yeoman's May King of Langwater, 14797, A. W. & F. E. Fox; fourth, Imp. Silver King of the Isle, 14363, Wilcox & Stubbs.

Bull One Year and Under Two—First, Rex Mar, Iowa Dairy Farm; second, Stranford's Glenwood of Pinehurst 3rd, 16202, A. W. & F. E. Fox; third, Bob Rilma, 16141, Wilcox & Stubbs; fourth, St. Paul, 2659, Iowa Dairy Farm; fifth, Bobetta's Joker, 17373, A. W. & F. E. Fox.

Bull Calf Under One Year—First, ———, Iowa Dairy Farm; second, Billy's France of Waukesha, 19066, A. W. & F. E. Fox; third, ———, Iowa Dairy Farm; fourth, Glenwood Knight of Iowa, Wilcox & Stubbs; fifth, Gay Lad L, 18936, A. W. & F. E. Fox.

Cow Four Years or Over—First, Glencoe's Bopeep, 18602, Iowa Dairy Farm; second, Selma of Pinehurst 2nd, 19626, A. W. & F. E. Fox; third, Aline of Lawton 2d, 23153, Wilcox & Stubbs; fourth, Queen Regent VI, 4909, Iowa Dairy Farm; fifth, Ruggett of Avondale, 5785, Iowa Dairy Farm; sixth, Duenna B., 20304, A. W. & F. E. Fox.

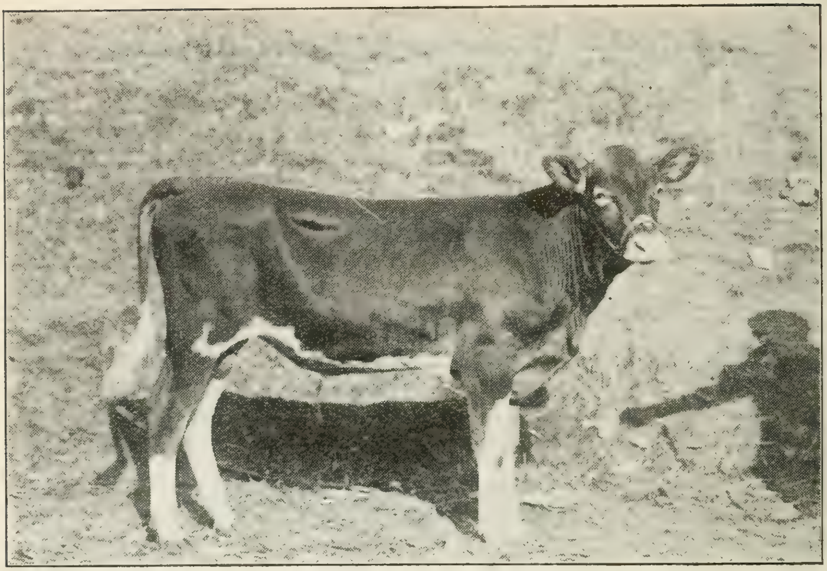
Cow Three Years and Under Four—First, Lalla of Waukesha, 24771, F. L. Kerr; second, Calla Luda, 27092, Wilcox & Stubbs; third, Amiable, Iowa Dairy Farm; fourth, Shop Girl of Haddon, 27381, A. W. & F. E. Fox.

Heifer Two Years and Under Three—First, Princess of Vila Roi, Iowa Dairy Farm; second, Molly of Pomeroy, 27605, A. W. & F. E. Fox; third, Princess Euphemia, 27843, Wilcox & Stubbs; fourth, Selma A. of Pinehurst, 26216, A. W. & F. E. Fox; fifth, Queen Regent VI, 34336, Iowa Dairy Farm.

Heifer One Year and Under Two—First, Dora of Pinehurst, 32832, A. W. & F. E. Fox; second, Fanny of Morants, 34344, Iowa Dairy Farm; third, Daisy Bell of Sarnia, 35667, Wilcox & Stubbs; fourth, Dutchess of Chatua, 1078, Iowa Dairy Farm; fifth, Glenwood Girl of Waukesha, 29640, A. W. & F. E. Fox.

Heifer Calf Under One Year—First, Jedetta of Iowa, Iowa Dairy Farm; second, College Girl of Waukesha, 35370, A. W. & F. E. Fox; third, Dairymaid of Iowa, Iowa Dairy Farm; fourth, Sweet Lassie II, Iowa Dairy Farm; fifth, College Girl of Waukesha, 35370, Iowa Dairy Farm.

Senior Champion Bull—Glenwood's Combination 5th, 11354, A. W. & F. E. Fox.



CHAMPION GUERNSEY BULL
Iowa State Fair and Exposition, 1911

Junior Champion Bull————, Iowa Dairy Farm.

Senior Champion Cow—Glencoe's Bopeep, 18602, Iowa Dairy Farm.

Junior Champion Heifer—Jedetta of Iowa, Iowa Dairy Farm.

Grand Champion Bull————, Iowa Dairy Farm.

Grand Champion Cow—Glencoe's Bopeep, 18602, Iowa Dairy Farm.

Exhibitor's Herd—First, Iowa Dairy Farm; second, A. W. & F. E. Fox; third, Wilcox & Stubbs; fourth, Iowa Dairy Farm.

Breeder's Young Herd—First, A. W. & F. E. Fox.

Get of Sire—First, Iowa Dairy Farm; second, A. W. & F. E. Fox; third, A. W. & F. E. Fox; fourth, A. W. & F. E. Fox.

Produce of Cow—First, A. W. & F. E. Fox; second, Wilcox & Stubbs; third, A. W. & F. E. Fox.

AYRSHIRE.

EXHIBITORS.

J. F. Converse & Co.; Woodville, New York; Adam Seitz, Waukesha, Wisconsin.

AWARDS.

JUDGE........E. P. GROUT, University Farm, St. Paul, Minn.

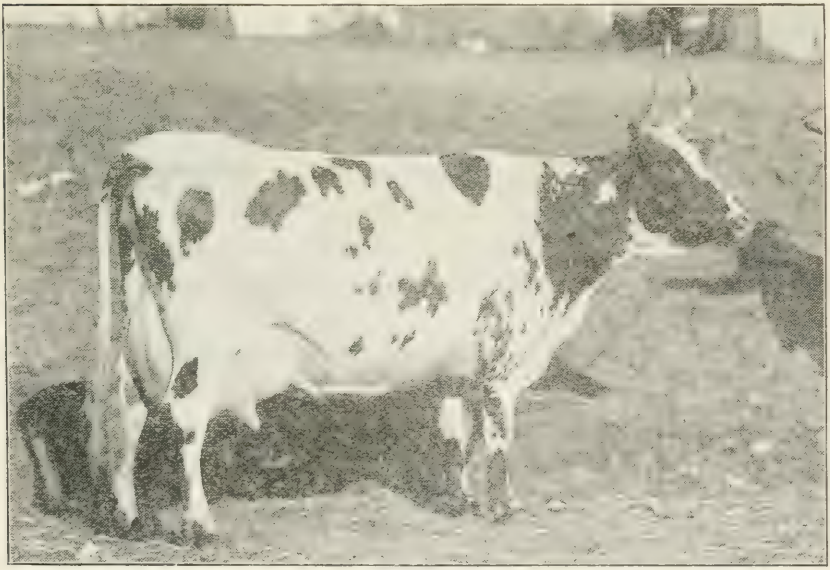
Bull Three Years or Over—First, Lessnessock First Choice, 11874, J. F. Converse & Co.; second, Bargenoch Gay Cavalier, 11981, Adam Seitz, *Bull Two Years and Under Three*—First, Imp. Howies Spices Alex, 12583, J. F. Converse & Co.

Bull One Year and Under Two—First, Fizzaway's Prince, 13301, J. F. Converse & Co.; second, Peter Pan, 12701, Adam Seitz.

Bull Calf Under One Year—First, Cock-a-Bendic of Spring City, 13714, Adam Seitz; second, Fizzaway's King Beauty, 13305, J. F. Converse; third, Imp. Spicey Heir, 13716, Adam Seitz; fourth, Florence's First Choice, 13890, J. F. Converse & Co.

Cow Four Years or Over—First, Sunnyside Lassie, 22790, J. F. Converse & Co.; second, Gladys Fizzaway, 22493, J. F. Converse & Co.; third, Imp. Barcheskie Cora 27666, Adam Seitz; fourth, Cleopatria of Waukesha, 19848, Adam Seitz; fifth, Fizzaway's Girl, 22494, J. F. Converse & Co.

Cow Three Years and Under Four—First, Imp. Kilnford Bell 3rd, 30643, Adam Seitz; second, Silver Pet of Spring City, 23502, J. F. Converse & Co.; third, Fizzaway Clover, 23930, J. F. Converse & Co.



CHAMPION AYRSHIRE COW
Iowa State Fair and Exposition, 1911

Heifer Two Years and Under Three—First, Sir Croft's Queen of Spring City, 26694, Adam Seitz; second, Dorothy Fizzaway, 28355, J. F. Converse; third, Cleopatra Croft of Spring City, 26693, Adam Seitz; fourth, Alta Croft of Spring City, 26692, Adam Seitz; fifth, Gladys D. Douglas Fizzaway, 28355, J. F. Converse.

Heifer One Year and Under Two—First, Imported Howie's Emerald, 28173, Adam Seitz; second, Howie's Beauty Fizzaway, J. F. Converse;

third, Sir Croft's Deuly of Spring City, 27663, Adam Seitz; fourth, Dorothy Fizzaway, 28355, J. F. Converse.

Bull Two Years Old and Under Three—First, Eminents Jubilee, 87283,

Heifer Calf Under One Year—First, Duchess Croft of Spring City, 30176, Adam Seitz; second, Croft Jane Cleopatra, 20173, Adam Seitz; third, Gladys Hector, 29073, J. F. Converse; fourth, Pansy Pender of Spring City, 30175, Adam Seitz; fifth, Fizzaway's Lady Semolina, 29074, J. F. Converse.

Senior Champion Bull—Lessnessock First Choice, 11874, J. F. Converse & Co.

Junior Champion Bull—Cock-a-Bendic of Spring City, 13714, Adam Seitz.

Senior Champion Cow—Sir Croft Queen of Spring City, 26694, Adam Seitz.

Junior Champion Heifer—Duchess Croft of Spring City, 30176, Adam Seitz.

Grand Champion Bull—Lessnessock First Choice, 11874, J. E. Converse & Co.

Grand Champion Cow—Duchess Croft of Spring City, 30176, Adam Seitz.

Exhibitor's Herd—First, Adam Seitz; second, J. F. Converse & Co.; third, J. F. Converse & Co.

Breeder's Young Herd—First, Adam Seitz; second, J. F. Converse & Co.

Get of Sire—First, Adam Seitz; second, J. F. Converse & Co.; third, Adam Seitz.

Produce of Cow—First, Adam Seitz; second Adam Seitz; third, J. F. Converse & Co.

BROWN SWISS

EXHIBITORS.

Allynhurst Farm, Delavan, Wisconsin; H. W. Ayers, Honey Creek, Wisconsin; S. B. Hefty, Renwick, Iowa.

AWARDS.

JUDGE........................E. S. ESTEL, Waterloo, Iowa.

Bull Three Years or Over—First, Zell, 2512, H. W. Ayers; second, Allynhurst Farm.

Bull Two Years and Under Three—First, Ilda's Lad, 2844, H. W. Ayers; second, Fearless, 2926, Allynhurst Farm.

Bull One Year and Under Two—First, ———, Allynhurst Farm; second, Charles Green, 3064, S. F. Hefty & Son; third, Cuma's Sultan, 3011, H. W. Ayers.

Bull Calf Under One Year—First, ————, Allynhurst Farm; second, ————, Allynhurst Farm; third, Zell B., H. W. Ayers.

Cow Four Years or Over—First, Myone Baby, 3378, Allynhurst Farm; second, Arlene, 2769, Allynhurst Farm; third, Golden Beauty, 1753, Allynhurst Farm.

Cow Three Years and Under Four—First, Upland Nick's Prize, 3670, H. W. Ayers; second, Una, 3596, H. W. Ayers; third, Matilda St., 3864, S. B. Hefty & Son.

Heifer Two Years and Under Three—First, Betty of Allynhurst, 4539, Allynhurst Farm; second, Molly A., 4663, H. W. Ayers; third, Crocus of Allynhurst, 4541, Allynhurst Farm.

Heifer One Year and Under Two—First, Molly B., 4662, H. W. Ayers; second, Golden of Allynhurst, 4538, Allynhurst Farm; third, Bertha H. 4630, Allynhurst Farm.

Heifer Calf Under One Year—First, Sultan's Crocus, 4781, H. W. Ayers; second, ————, Allynhurst Farm; third, Lady B. of Allynhurst, Allynhurst Farm.

Senior Champion Bull—Zell, 2512, H. W. Ayers.

Junior Champion Bull—Allynhurst Farm.

Senior Champion Cow—Myone Baby, 3378, Allynhurst Farm.

Junior Champion Heifer—Sultan's Crocus, 4781, H. W. Ayers.

Grand Champion Bull—Zell, 2512, H. W. Ayers.

Grand Champion Cow—Myone Baby, 3378, Allynhurst Farm.

Exhibitor's Herd—First, Allynhurst Farm; second, H. W. Ayers; third, Allynhurst Farm.

Breeder's Young Herd—First, Allynhurst Farm; second, H. W. Ayers.

Get of Sire—First, Allynhurst Farm; second, H. W. Ayers.

Produce of Cow—First, Allynhurst Farm; second, H. W. Ayers; third, Allynhurst Farm.

TEST OF MILCH COWS.

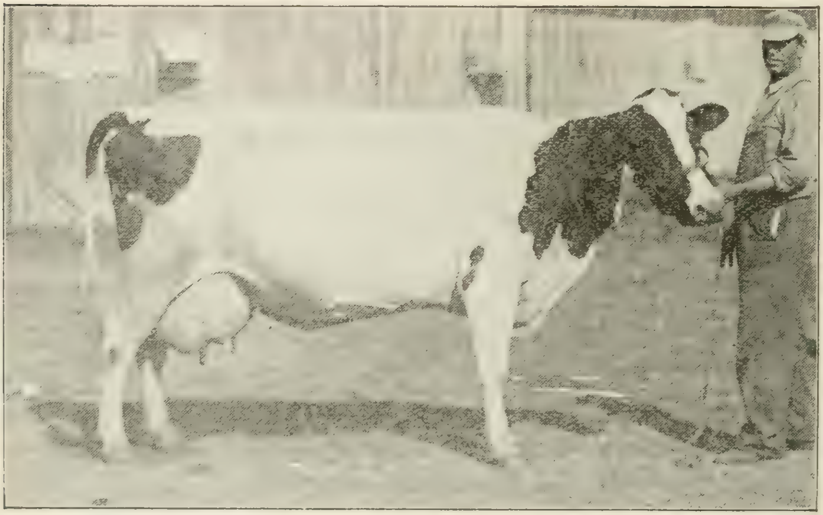
EXHIBITORS.

Allynhurst Farm, Delavan, Wisconsin; Burweb Farm, Minneapolis, Minnesota; E. Bruins, Fairwater, Wisconsin; G. A. Chaffee, Minneapolis, Minnesota; Iowa Dairy Farm, Waterloo, Iowa; Smith & Roberts, Beatrice, Nebraska; Frank White, Hampton, Iowa; A. W. & F. E. Fox, Waukesha, Wisconsin.

AWARDS.

JUDGE........................E. S. ESTEL, Waterloo, Iowa.

First, Lady Ona Hijlaard, 1,436, Frank White; second, Petroes Lovely Maid, 1,399, Smith & Roberts; third, Arlene, 1,304, Allynhurst Farm; fourth, Pauline Witkop, 1,285, Frank White; fifth, Shop Girl of Haddon, 1,258, A. W. & F. E. Fox; sixth, Mayflower's Glory, 1,131, E. Bruins; seventh, Myone Baby, 1,077, Allynhurst Farm; eighth, Imp. Fan III of the Garenne, 1,001, Iowa Dairy Farm; ninth, Sweet Kitty, 905, G. A. Chaffee.



CHAMPION HOLSTEIN COW AND WINNER IN TEST OF MILCH COWS
Iowa State Fair and Exposition, 1911

FAT SHORT-HORNS.

(PURE BRED).

EXHIBITORS.

F. W. Harding, Waukesha, Wisconsin; Rapp Bros., St. Edward, Nebraska; C. A. Saunders, Manilla, Iowa; Walker Bros., Ord, Nebraska; J. S. Zook & Son, Fontanelle, Iowa.

AWARDS.

JUDGE......................C. D. BELLOWS, Maryville, Mo.

Steer, Spayed or Martin Heifer, Two Years and Under Three—First, Benefactor, Tomson Bros.; second, Quality Prince, C. A. Saunders.

Steer, Spayed or Martin Heifer, One Year and Under Two—First, Aviator, F. W. Harding; second, Brampton, Tomson Bros.; third, ———, C. A. Saunders; fourth, Roan Seal, C. A. Saunders.

Steer, Spayed or Martin Heifer under One Year—First, Benedict, Tomson Bros.; second, Red King, C. A. Saunders; third, Speculation, Walker Bros.

Champion Steer, Spayed or Martin Heifer—First, Benefactor, Tomson Bros.

Champion Group of Three Head Owned by Exhibitor—First, Tomson Bros.; second C. A. Saunders.

FAT SHORT HORNS.

(GRADE OR CROSS BRED).

Steer, Spayed or Martin Heifer, Two Years and Under Three—First, Joe, C. A. Saunders; second, Touch-me-Not, Rapp Bros.; third, ————, C. A. Saunders.

Steer, Spayed or Martin Heifer, One Year and Under Two—First, Diamond's Jack, C. A. Saunders; second, Roan Princess, Rapp Bros.; third, Victor, Rapp Bros.

Steer, Spayed or Martin Heifer, Under One Year—First, Chuck, C. A. Saunders; second, Lewis, Rapp Bros.

Champion Steer, Spayed or Martin Heifer—Joe, C. A. Saunders.

Champion Group of Three Head Owned by Exhibitor—First, C. A. Saunders; second, Rapp Bros.

FAT HEREFORD.

(PURE BRED).

EXHIBITORS.

J. P. Cudahy, Belton, Missouri; Robert H. Hazlett, El Rorado, Kansas; Cyrus A. Tow, Norway, Iowa; J. H. Van Natta & Sons, LaFayette, Indiana; W. S. Van Natta & Son, Fowler, Indiana.

AWARDS.

JUDGE....................ROBT. D. MOUSEL, Cambridge, Nebr.

Steer, Spayed or Martin Heifer, Two Years and Under Three—First, Clifton 1st, J. P. Cudahy; second, Donald Lad, 324645, W. S. Van Natta & Son; third, Herbert 2nd, 325229, Cyrus A. Tow.

Steer, Spayed or Martin Heifer, One Year and Under Two—First, Donald Lad 5th, 344983, J. P. Cudahy; second, Brocade 3rd, 341211, Cyrus A. Tow.

Steer, Spayed or Martin Heifer Under One Year—First, Prince, J. P. Cudahy; second, Donald Lad 10th, 370528, J. P. Cudahy; third, Brocade 4th, 364833, Cyrus A. Tow; fourth, Sterling IX, J. P. Cudahy.

Champion Steer, Spayed or Martin Heifer—Clifton Ist, J. P. Cudahy.

Champion Group of Three Head Owned by One Exhibitor—First, W. S. Van Natta & Son; second, Cyrus A. Tow.

FAT HEREFORD.

(GRADE OR CROSS BRED).

Steer, Spayed or Martin Heifer One Year Under Two—First, Teddy 2nd, W. S. Van Natta & Son.

Steer, Spayed or Martin Heifer, Under One Year—First, Albany A., Cyrus A. Tow.

Champion Steer, Spayed or Martin Heifer—Albany A., Cyrus A. Tow.

FAT ABERDEEN-ANGUS.

(PURE BRED).

EXHIBITORS.

R. M. Anderson & Sons, Newell; Otto V. Battles, Maquoketa, Iowa; Escher & Ryan, Irwin, Iowa; W. J. Miller, Newton, Iowa.

AWARDS.

JUDGE........................E. T. DAVIS, Iowa City, Iowa.

Steer, Spayed or Martin Heifer, Two Years and Under Three—First, Crook, Escher & Ryan; second, King's Choice, W. J. Miller; third, North Star, Escher & Ryan.

Steer, Spayed or Martin Heifer, One Year and Under Two—First, Idol, Escher & Ryan; second, Kitely, Escher & Ryan; third, Black Burn, W. S. Miller; fourth, Good Enough, Escher & Ryan.

Steer, Spayed or Martin Heifer Under One Year—First, Idol 2nd, Escher & Ryan; second, Proud Sir, Escher & Ryan; third, King Steer of Rosemere, Otto V. Battles; fourth, Black Enterprise, W. J. Miller.

Champion Steer, Spayed or Martin Heifer—Idol, Escher & Ryan

Champion Group of Three Head Owned by Exhibitor—First, Escher & Ryan; second, Escher & Ryan; third, W. J. Miller.

FAT ABERDEEN-ANGUS.

(GRADE OR CROSS BRED).

Steer, Spayed or Martin Heifer, Two Years and Under Three—First, King of Shelby, Escher & Ryan; second, Pat, W. J. Miller; third, Edgar, Escher & Ryan; fourth, Wakarusa King, W. J. Miller.

Steer, Spayed or Martin Heifer, One Year and Under Two—First, Buick, Escher & Ryan; second, Proud K, Escher & Ryan; third, Metz Hero 2nd, W. J. Miller; fourth, East Riverside Prince, R. M. Anderson & Sons.

Steer, Spayed or Martin Heifer Under One Year—First, Fulback, Escher & Ryan; second, Proud Penn, Escher & Ryan; third, Mischief, W. J. Miller.

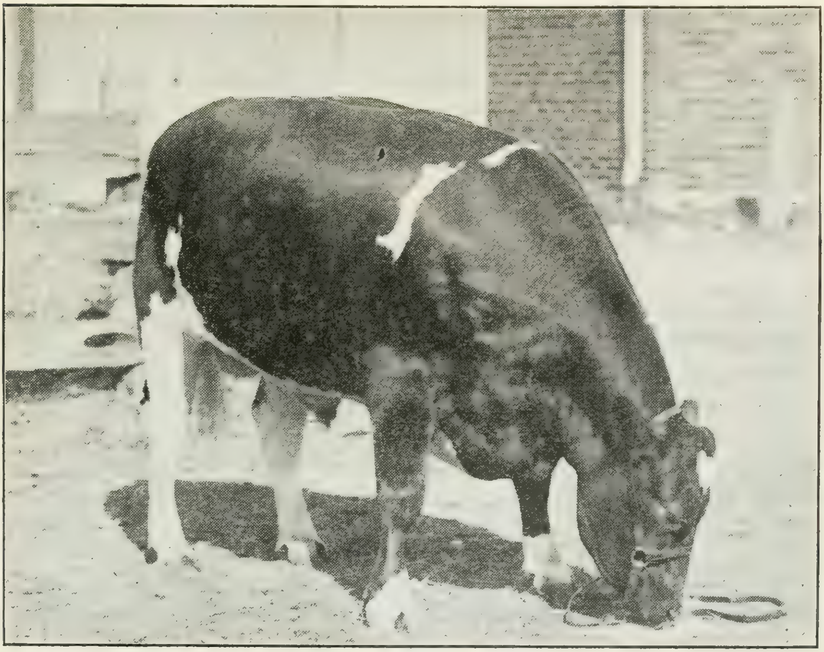
Champion Steer, Spayed or Martin Heifer—Escher & Ryan.

Champion Group of Three Head Owned by Exhibitor—First, Escher & Ryan; second, Escher & Ryan; third, W. J. Miller.

FAT CATTLE—GRAND CHAMPION.

EXHIBITORS.

Tomson Bros., Dover, Kansas; J. P. Cudahy, Belton, Missouri; Cyrus A. Tow, Norway, Iowa; Escher & Ryan, Irwin, Iowa.



GRAND CHAMPION STEER
Iowa State Fair and Exposition, 1911

AWARDS.

JUDGE........................C. D. BELLOWS, Maryville, Mo.

JUDGE........................E. T. DAVIS, Iowa City, Iowa.

JUDGE.................... ...R. D. MOUSEL, Cambridge, Nebr.

Steer, Spayed or Martin Heifer, any age or breed, limited to sweepstakes or champion steers, spayed or martin heifers winning in pure bred Short-Horn, Hereford, Aberdeen-Angus, Galloway and the grade and cross bred sections—Benefactor, Tomson Bros.

FAT CATTLE—GRAND CHAMPION GROUP.

EXHIBITORS.

W. S. Van Natta & Son, LaFayette, Indiana; Cyrus A. Tow, Norway, Iowa; Escher & Ryan, Irwin, Iowa.

AWARDS.

JUDGE........................C. D. BELLOWS, Maryville, Mo.

JUDGE........................E. T. DAVIS, Iowa City, Iowa.

JUDGE.....................R. D. MOUSEL, Cambridge, Nebr.

Grand Champion Group of Three Steers, Spayed or Martin Heifers, consisting of one steer, spayed or martin heifer two years and under three, one one year and under two, and one under one year, owned by one exhibitor. Competition limited to the champion groups in Short-Horn, Hereford, Aberdeen-Angus, Galloway and grade and cross-bred sections ————, W. S. Van Natta & Son.

SWINE DEPARTMENT.

SUPERINTENDENT....R. S. JOHNSTON, Columbus Junction, Iowa.

POLAND CHINAS.

EXHIBITORS.

C. F. Adams, Owasa, Iowa; F. W. Akers, Laurel, Iowa; E. J. Augsperger, Pulaski, Iowa; A. J. Birkestrand, Cambridge, Iowa; J. W. Blackford, Hillsboro, Iowa; R. R. Blake, Waukee, Iowa; G. B. Burge, Mt. Vernon, Iowa; M. H. Corey, Lockridge, Iowa; J. H. Cope, Carlisle, Iowa;

W. J. Crow, Webb, Iowa; C. C. Croxen, Atalissa, Iowa; J. I. Davis, Mt. Hamill, Iowa; J. S. Fawcett & Sons, Springdale, Iowa; R. H. Fitchenmueller, Farmington, Iowa; S. Fleming, Stuart, Iowa; John Francis & Sons, New Lennox, Illinois; Jas. E. Garrity, DeWitt, Iowa; Geo Glynn, Sioux Rapids, Iowa; Wm. Griffeon, Mitchellville, Iowa; R. W. Halford, Manning Iowa; H. J. Hemmerling, Dike, Iowa; A. P. Hoisington, Casey, Iowa; Chas. Hummerick, Atlantic, Iowa; O. V. Hunt, Ravenwood, Missouri; James Jensen, Newell, Iowa; Nels C. Jensen, Exira, Iowa; C. F. Keeling, Avon, Iowa; A. Kool, Fifield, Iowa; Joe Kramer, Elkader, Iowa; E. W. Kreischer, Mt. Vernon, Iowa; P. B. Lake, Moscow, Iowa; Henry Lauer, Eldorado, Iowa; Wm Lentz, Ankeny, Iowa; J. V. Lingenfelter, Altoona, Iowa; G. F. Marshall, & Son, Monroe, Iowa; Theo Martin, Bellevue, Iowa; Wm. Mason, Carlisle, Iowa; J. A. Mason, Carlisle, Iowa; J. E. Meharry, Tolona, Illinois; E. M. Metzer, Fairfield, Iowa; John F. Myer, Newton, Iowa; S. G. McFadden, West Liberty, Iowa; D. H. Paul, Laurel, Iowa; J. W. Parker, Columbia, Iowa; A. J. Podendorf, Logan, Iowa; V. Reub & Sons, Stuart, Iowa; F. P. Robinson, Maryville, Missouri; C. V. Robson, Scranton, Iowa; Schain & Keep, Atlantic, Iowa; P. F. Schwimley, Kalona, Iowa; F. J. Sexsmith, Orient, Iowa; K. R. Shelden, Monmouth, Illinois; Mark I. Shaw, Monroe, Iowa; Shively & Denton, Rochester, Illinois; W. Z. Swallow, Waukee, Iowa; Thompson, Leahy & Hanson, Parnell, Iowa; J. H. Watson, Madrid, Iowa; Oliver Whitman, Biggsville, Illinois; Wigstone Bros., Stanhope, Iowa; Williams Bros., Villisca, Iowa; W. C. Lookingbill, Sac City, Iowa; John H. Fitch, Lake City, Iowa.

AWARDS.

JUDGE......................J. M. STEWART, Ainsworth, Iowa.

Boar Two Years or Over—First, Big Thickset, 158157, J. W. Parker; second, Defender, A. P. Hoisington; third, Chief Impudence, 145425, J. E. Meharry; fourth, Look's Model, 165367, J. W. Watson; fifth, Prince Ito, 163839, Joe Kramer; sixth, Giant Bob, 53361, F. P. Robinson; seventh, Pawnee Pete, 55115, F. P. Robinson.

Boar Eighteen Months, Under Two Years—First, Chief Again Prince, 170069, Henry Lauer; second, Keen Kutter, 177771, J. E. Meharry; third, Walkover Boy, 161741, S. G. McFadden; fourth, Master Walkover 2nd, J. W. Parker; fifth, Columbus Chief, 167419, R. R. Blake.

Boar One Year, Under Eighteen Months—First, I am Banker, 175175, J. E. Meharry; second, Comptroller 2nd, 172903, J. E. Meharry; third, Leslie's Special, 176041, Shively & Denton; fourth, Chief Ito, Joe Kramer; fifth, The Baron, 177653, M. H. Corey; sixth, ————, Thompson, Leahy & Hanson; seventh, Crow's Kind, 57395, W. J. Crow.

Boar Six Months, Under One Year—First, Peter the Great, 178259, J. E. Meharry; second, Perfect Spellbinder 2nd, Joe Kramer; third, Tolono Special, J. E. Meharry; fourth, ————, Thompson, Leahy & Hanson; fifth, Hedgewood Boy, Shively & Denton; sixth, The Emperor, 177655, M. H. Corey; seventh, Calendar 2nd, D. H. Paul.

Boar Under Six Months—First, Commissioner, 178263, J. E. Meharry; second, ———, R. H. Fichtenmueller; third, ———, W. J. Crow; fourth, ———, S. G. McFadden; fifth, ———, M. H. Corey; sixth, ———, M. H. Corey; seventh, ———, James Jenson.

Sow Two Years or Over—First, Peerless Lady, 426044, Wigstone Bros.; second, Perfect Dew Drop 2nd, 349720, J. E. Meharry; third, Laurel Queen 2nd, 376278, D. H. Paul; fourth, Giantess A, 401586, Wigstone Bros.; fifth, Flossy Lady, 128869, F. P. Robinson; sixth, Dewdrop, 426134, E. W. Kreischer; seventh, Nodaway Bell III, 134884, Williams Bros.

Sow Eighteen Months, Under Two Years—First, Cinderella, 395210, J. E. Meharry; second, Cinderella 2nd, 395212, J. E. Meharry; third, Fancy Perfection 1st, D. H. Paul; fourth, ———, J. Pfander & Son; fifth, Lady Walkover, 135224, Nels C. Jensen.

Sow One Year, Under Eighteen Months—First, Carnation, 425000, J. E. Meharry; second, Blue Bells, Joe Kramer; third, Bonnie 2nd, 424296, M. H. Corey; fourth, Bashfull Lass 2nd, 397068, J. E. Meharry; fifth, Lady Winner, W. C. Lookingbill; sixth, Glad Bells, Joe Kramer; seventh, Jennie, 136231, F. B. Robinson.

Sow Six Months, Under One Year—First, Nannie 9th, 425536, J. E. Meharry; second, Nannie 10th, 425538, J. E. Meharry; third, ———, Thompson, Leahy & Hanson; fourth, ———, Thompson, Leahy & Hanson; fifth, Lady Spellbinder, Joe Kramer; sixth, The Empress, 424298, M. H. Corey; seventh, Valla Spellbinder 4th, Joe Kramer.

Sow Under Six Months—First, ———, R. H. Fichtenmueller; second, ———, W. A. Mason, Carlisle; third, ———, R. H. Fichtenmueller; fourth, ———, W. A. Mason, Carlisle; fifth, Anny Gentry, Joe Kramer, sixth, S. P. Girl, J. S. Fawcett & Son; seventh, ———, M. H. Corey.

Senior Champion Boar—I am Banker, 175175, J. E. Meharry.

Junior Champion Boar—Peter the Great, 178259, J. E. Meharry.

Senior Champion Sow—Cinderella, 395210, J. E. Meharry.

Junior Champion Sow—Nannie the 9th, 425536, J. E. Meharry.

Grand Champion Boar—I am Banker, 175175, J. E. Meharry.

Grand Champion Sow—Cinderella, 395210, J. E. Meharry.

Boar and Three Sows Over One Year—First, J. E. Meharry; second, Wigstone Bros.; third, J. E. Meharry; fourth, Joe Kramer; fifth, D. H. Paul; sixth, F. P. Robinson; seventh, W. C. Lookingbill.

Boar and Three Sows Under One Year—First, J. E. Meharry; second, R. H. Fichtenmueller; third, Thompson, Leahy & Hanson; fourth, Joe Kramer; fifth, D. H. Paul; sixth, M. H. Corey; seventh, S. G. McFadden.

Boar and Three Sows Over One Year, Bred by Exhibitor—First, J. E. Meharry; second, Joe Kramer; third, D. H. Paul; fourth, F. P. Robinson, W. C. Lookingbill; sixth, Nels C. Jensen.

Boar and Three Sows Under One Year, Bred by Exhibitor—First, J. E. Meharry; second, R. H. Fichtenmueller; third, Thompson, Leahy & Hanson; fourth, Joe Kramer; fifth, D. H. Paul; sixth, M. H. Corey; seventh, S. G. McFadden.

Get of Sire—First, J. E. Meharry; second, J. E. Meharry; third, R. H. Fichtenmueller; fourth, M. H. Corey; fifth, Thompson, Leahy & Hanson; sixth, Joe Kramer; seventh, D. H. Paul.

Produce of Sow—First, J. E. Meharry; second, J. E. Meharry; third, R. H. Fichtenmueller; fourth, Thompson, Leahy & Hanson; fifth, Joe Kramer; sixth, J. W. Parker; seventh, M. H. Corey.

DUROC JERSEYS.

EXHIBITORS.

H. S. Allen, Russell, Iowa; A. P. Alsin, Boone, Iowa; Ashby, Hockett & Gardner, Manning, Iowa; L. F. Atwater, Bangor, Wisconsin; L Baker, Mingo, Iowa; Balmat & Son, Mason City, Iowa; Baxter & Comer, Carlinville, Illinois; Frank E. Blackman, Tarkio, Missouri; W. R. Bennethun, Madrid, Iowa; H. E. Browning, Hersman, Illinois; F. B. Butterfield, Ankeny, Iowa; G. H. Cain, Granger, Iowa; R. Capinegro, Des Moines, Iowa; V. Capinegro, Des Moines, Iowa; C. C. Croxen, Atalissa, Iowa; T. J. Current, Hildreth, Nebraska; U. G. Davidson, Corwith, Iowa; F. H. Dickey, Emmetsburg, Iowa; Mark W. Eddy, Fontanelle, Iowa; F. Fowler & Son, Menlo, Iowa; J. D. Freed, Kelley, Iowa; S. P. Freed, Ames, Iowa; Gawley & Southall, Irwin, Iowa; J. E. Grant, Carlisle, Iowa; Jas. W. Grimstead, Jr., Mitchellville, Iowa; A. F. Hager, Avoca, Iowa; J. E. Hammer, Paton, Iowa; Hanks & Bishop, New London, Iowa; Myles Harkins, Pleasantville, Iowa; Harkins & Thornbourgh, Pleasantville, Iowa; F. H. Herring, Iowa City, Iowa; Claude Huffman, Scranton, Iowa; Ira Jackson, Tippecanoe City, Ohio; John S. Jenks, Fairfield, Iowa; S. W. Johnson, Rippey, Iowa; John Justice, Ankeny, Iowa; J. W. Kent, Auburn, Iowa; Knauss & Mow, Soldier, Iowa; Kuper Bros., Bellevue, Iowa; P. B. Lake, Moscow, Iowa; H. W. Lineweaver, South English, Iowa; Grant Lynn, Spirit Lake, Iowa; S. J. Madison, Nevinville, Iowa; B. C. Marts, Hampton, Iowa; Henry Matern, Lostant, Illinois; E. D. Michael, Selma, Iowa; C. E. Mundell, Lucas, Iowa; J. W. McMichael, Carlisle, Iowa; D. Nauman, West Liberty, Iowa; H. C. Nichols, West Liberty, Iowa; A. A. Pearson, Springdale, Iowa; W. M. Putman & Sons, Tecumseh, Nebraska; M. S. Pratt, Frederika, Iowa; R. F. Reed, Delta, Iowa; J. E. Reed, Delta, Iowa; G. D. Rhea, Kennard, Nebraska; W. M. Sells & Sons, Indianola, Iowa; H. A. Sexsmith, Greenfield, Iowa; Sheldon Bros., Shannon City, Iowa; Chas. Shepard, Muscatine, Iowa; J. E. Smith, Victor, Iowa; O. R. Stevens, Rippey, Iowa; S. W. Stewart & Sons, Kennard, Nebraska; C. N. Stout, What Cheer, Iowa; F. A. Strong, Orient, Iowa; John Thompson, Lake City, Iowa; C. O. Thornburg, Pleasantville, Iowa; Tupper & Hull, Woodbine, Iowa; Van Meter

& Caldwell, Williamsville, Illinois; C. E. Veak, Essex, Iowa; Waltemeyer Bros., Melbourne, Iowa; Ed. L. Wensel, Melbourne, Iowa; Grant White, Afton, Iowa; Geo. T. White, Dallas Center, Iowa; N. J. Wilkins, Lake City, Iowa; Hosea Wilson, Blair, Nebraska; S. J. Wilson, West Branch, Iowa; J. C. Wood, Muscatine, Iowa; R. G. McDuff, Monroe, Iowa; E. Crab, Reynolds, Illinois; L. R. Van Nice, Russell, Iowa.

AWARDS.

JUDGE........................R. J. HARDING, Macedonia, Iowa.

Boar Two Years or Over—First, Valley King, 87311, S. J. Madison; second, Nora's Wonder, 86679, Gawley & Southall; third, ————, Gilbert Van Patten; fourth, C. H.'s Special, 81871, Claude Huffman; fifth, ————, Balmat & Son; sixth, Ohio Col., 87047, W. M. Putman & Sons; seventh, Muncie Again, 94331, A. P. Alsen.

Boar Eighteen Months, Under Two Years—First, Allen's Wonder Again, 106657, H. S. Allen; second, Foxey Model, 112495, Waltemeyer Bros.; third, E. L.'s Col. S, Ed. L. Wensel; fourth, Royal Muncie, 112137, A. D. Freed; fifth, Col. Beaubont, 34523a, H. E. Browning; sixth, Evergreen Prince, 99853, Grant Lynn; seventh, Golden Model 7th, 97015, John Thompson.

Boar One Year, Under Eighteen Months—First, Golden Model XVII, Ashby, Hockett & Gardner; second, Belle's Colonel, 98249, John S. Jenks; third, W. B.'s Golden Model, 112497, Waltermeyer Bros.; fourth, Ring Master, 34519a, H. E. Browning; fifth, Col. Orion, 34837a, Van Meter & Caldwell; sixth, B. & C. Col. II, Baxter & Comer; seventh, LaFollette's Triumph, 111997, Tupper & Hull.

Boar Six Months, Under One Year—First, Crimson Col., 34517a, H. E. Browning; second, Wonder Chief, B. C. Marts; third, Queen's Colonel, 112503, Waltermeyer Bros.; fourth, Col.'s Wonder, 111961, Hanks & Bishop; fifth, Wonderful Crimson Again, 111833, H. S. Allen; sixth, A. P.'s Muncie, 112031, A. P. Alsin; seventh, Crimson of Crimson's Wonders, F. J. Current.

Boar Under Six Months—First, ————, Waltermeyer Bros.; second, Reformer, 35483, Henry W. Matern; third, Manager, Van Meter & Caldwell; fourth, ————, Waltermeyer Bros.; fifth, ————, C. O. Thornburg; sixth, Muncie's Best, A. P. Alsin; seventh, Iowa Chief, A. P. Alsin.

Sow Two Years or Over—First, Chief's Queen, 227574n, H. E. Browning; second, Chief's Maid, 212280, W. M. Putman & Sons; third, Minnie, 251736n, Van Meter & Caldwell; fourth, Model D. II, 81078a, 230648n, Gilbert Van Patten; fifth, Soloman Queen, Ashby, Hockett & Gardner; sixth, Advance Girl, 224256, Gawley & Southall; seventh, Golden Queen, Ashby, Hockett & Gardner.

Sow Eighteen Months, Under Two Years—First, Chief's Best, Ashby, Hockett & Gardner; second, Jewell's Model, 252034, Hanks & Bishop; third, Crimson's Model, 247174, Baxter & Comer; fourth, Lady Muncie, 251362, A. P. Alsin; fifth, ————, Balmat & Son; sixth, ————, W. M. Putman & Sons; seventh, Only, 65874, H. E. Browning.

Sow One Year, Under Eighteen Months—First, Proud Nellie, 288294, Hanks & Bishop; second, Belle C., 263138, Baxter & Comer; third, ————, W. M. Putman & Sons; fourth, Nora's Model, Ashby, Hockett & Gardner; fifth, Lucy Wonder 116th, 81574, H. E. Browning; sixth, Model A. II, 81080a, 288662n, Gilbert Van Patten; seventh, Anna, 288910, Hosea Wilson.

Sow Six Months, Under One Year—First, Crimson May, 288290, Hanks & Bishop; second, R. J. Model, W. M. Sells & Son; third, Perfecto Lady, S. W. Stewart & Sons; fourth, Red Wing, 288288, Hanks & Bishop; fifth, W. M. Putman & Sons; sixth, Crimson Lady, 288338, Tupper & Hull; seventh, High Duchess 1st, 288552, C. E. Veak.

Sow Under Six Months—First, Lena Sensation, S. W. Stewart & Sons; second, ————, Waltermeyer Bros.; third, ————, Gilbert Van Patten; fourth, Keep Sake, 81674, Henry W. Matern; fifth, Iowa Lady, A. P. Alsin; sixth, ————, Gilbert Van Patten; seventh, ————, W. M. Sells & Sons.

CHAMPION DUROC JERSEY SOW
Iowa State Fair and Exposition, 1911

Senior Champion Boar—Valley King, 87311, S. J. Madison.

Junior Champion Boar—Crimson Col., 34517a, H. E. Browning.

Senior Champion Sow—Chief's Queen, 227574n, H. E. Browning.

Junior Champion Sow—Crimson May, 288290, Hanks & Bishop.

Grand Champion Boar—Valley King, 87311, S. J. Madison.

Grand Champion Sow—Chief's Queen, 227574n, H. E. Browning.

Boar and Three Sows Over One Year—First, Ashby, Hockett & Gardner; second, H. E. Browning; third, W. M. Putman & Sons; fourth, Baxter & Comer; fifth, Hanks & Bishop; sixth, H. S. Allen; seventh, Waltermeyer Bros.

Boar and Three Sows Under One Year—First, Waltermeyer Bros.; second, H. E. Browning; third, Hanks & Bishop; fourth, S. W. Stewart & Sons; fifth, Henry W. Matern; sixth, W. M. Sells & Sons; seventh, H. S. Allen.

Boar and Three Sows Over One Year, Bred by Exhibitor—First, H. E. Browning; second, Gawley & Southall; third, Ashby, Hockett & Gardner; fourth, Hanks & Bishop; fifth, H. S. Allen; sixth, Waltermeyer Bros.; seventh, A. P. Alsin.

Boar and Three Sows Under One Year, Bred by Exhibitor—First, Waltermeyer Bros.; second, H. E. Browning; third, Hanks & Bishop; fourth, S. W. Stewart & Sons; fifth, H. W. Matern; sixth, Gawley & Southall.

Get of Sire—First, Hanks & Bishop; second, Waltermeyer Bros.; third, Baxter & Comer; fourth, Ashby, Hockett & Gardner; fifth, S. W. Stewart & Sons; sixth, H. S. Allen; seventh, H. W. Matern.

Produce of Sow—First, Waltermeyer Bros.; second, Baxter & Comer; third, Hanks & Bishop; fourth, S. W. Stewart & Sons; fifth, Henry W. Matern; sixth, Waltermeyer Bros.; seventh, W. M. Sells & Sons.

SPECIALS OFFERED BY THE NATIONAL DUROC JERSEY RECORD ASSOCIATION.

Best Herd, Consisting of Boar and Three Sows, Bred by Exhibitors—First, Hanks & Bishop; second, Waltermeyer Bros.; third, Ashby, Hockett & Gardner.

SPECIALS OFFERED BY AMERICAN DUROC JERSEY SWINE BREEDERS ASSOCIATION.

Best Herd, Under One Year, Bred and Owned by Exhibitor—Hanks & Bishop.

Best Herd One Year Old or Over, Bred and Owned by Exhibitor (Open to the world)—First, Baxter & Comer; second, G. S. Van Patten.

Best Herd Under One Year Old, Bred and Owned by Exhibitor (Open to the World)—First, H. E. Browning; second, Hanks & Bishop.

CHESTER WHITE.

EXHIBITORS.

Allen Bros., Russell, Iowa; Alden Anderson, Ellsworth, Iowa; Barr & Rae, Ames, Iowa; B. M. Boyer, Farmington, Iowa; F. J. Davis, Moulton, Iowa; Geo. W. Debar, Aurora, Iowa; H. A. Dudley, Jefferson, Iowa; W. H. Dunbar, Jefferson, Iowa; G. L. Emmert & Sons, Mason City, Iowa; C. C. Evans, North English, Iowa; R. F. Fantz, New Hampton, Iowa; A. B. Heath, Newell, Iowa; S. B. Hefty & Sons, Renwick, Iowa; Wm. Hoover, Oskaloosa, Iowa; T. F. Householder, Newell, Iowa; Thos. F. Kent, Walnut, Iowa; P. B. Lake, Moscow, Iowa; Geo. A. Lasley, Selma, Iowa; J. H. Loughridge, Delta, Iowa; J. H. Mahannah, North English, Iowa; H. Meyer, Staplehurst, Nebraska; Will Michael, Selma, Iowa; E. L. Nagle & Son, Deep River, Iowa; J. T. Perry, Selma, Iowa; Fred W. Pittman, Shelby, Iowa; L. C. Reese, Prescott, Iowa; Otto B. Schultz, Nashville, Michigan; W. W. Seeley, Stuart, Iowa; Frank E. Sherer, Joy, Illinois; A. J. Spear, Walnut, Iowa; J. L. Stittsworth, Knoxville, Iowa; L. C. West, Dallas Center, Iowa; Wm. Whitted, Monroe, Iowa; M. W. Young, Ankeny, Iowa; W. E. Gaffey, Storm Lake, Iowa; O. N. Phillips & Son, Aledo, Illinois.

AWARDS.

JUDGE...........................WILSON ROWE, Ames, Iowa.

Boar Two Years or Over—First, Wonder, 18069, Wm. A. Hoover; second, Chickasaw Choice, 15691, Barr & Rae; third, Teddy's Choice, 18761, Wm. A. Hoover; fourth, Sam B., 19933, T. F. Householder; fifth, Keep On, 16017, L. C. Reese; sixth, Iowa Protection, 19551, Thos. F. Kent; seventh, Captain King, Arthur J. Spear.

Boar Eighteen Months, Under Two Years—First, Path Finder, 18179, L. C. Reese; second, Combination 2nd, 17557, C. C. Evans; third, Vala's, 29230, O. N. Phillips & Son.

Boar One Year, Under Eighteen Months—First, Mahaska Lad, 20773, Wm. A. Hoover; second, Chief Select, 32543, G. L. Emmert; third, Reese Sam, 18557, L. C. Reese; fourth, Council, 20317, Barr & Rae; fifth, Gold Model, 27678, H. Meyer; sixth, White Model, 27679, H. Meyer; seventh, Keep on Boy, 18555, L. C. Reese.

Boar Six Months, Under One Year—First, Hustler, 15769, E. L. Nagle & Son; second, Keep on Favorite, 18561, L. C. Reese; third, Mont Rose OK, J. H. Mahannah; fourth, Charmer, 20769, Wm. Hoover; fifth, Highland Choice, Barr & Rae; sixth, Velvet Boy, H. Meyer; seventh, ————, J. A. Loughridge.

Boar Under Six Months—First, Taft, 15765, E. L. Nagle & Son; second, Tom Thumb, 15763, E. L. Nagle & Son; third, Chief Justice OK, J. H. Mahannah; fourth, Harvester OK, J. H. Mahannah; fifth, ————, Barr & Rae; sixth, Verne, 18571, L. C. Reese; seventh, Aledo Boy, O. N. Phillips & Son.

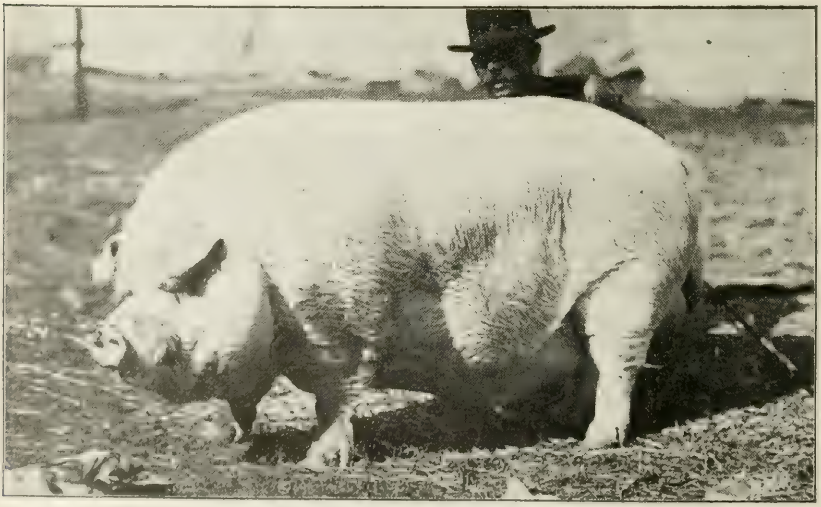
Sow Two Years or Over—First, Marie No. 2, 44020, Wm. A. Hoover; second, Queen's Best, 27908, L. C. Reese; third, Graceful, 24176, W. H. Dunbar; fourth, Susana, 27904, L. C. Reese; fifth, Miss Perfection, 43000, Geo. A. Lasley; sixth, Perfection Lady, 25616, C. C. Evans; seventh, Moddle 2nd, 22904, F. J. Davis.

Sow Eighteen Months, Under Two Years—First, Iowa Production, 45848, Thos. F. Kent; second, Sweet Marie, 29442, L. C. Reese; third, Fancy Girl, 29446, L. C. Reese; fourth, Up-to-Date, 45716, W. H. Dunbar; fifth, Alix 3rd, O. N. Phillips & Son; sixth, Reece O. K. 2nd, ——————; seventh, Highland Dolly, 32699, Allen Bros.

Sow One Year, Under Eighteen Months—First, Lady Select, 32545, G. L. Emmert & Sons; second, Lady Perfection, 32546, G. L. Emmert & Sons; third, Iowa Tidings, 45850, Thos. F. Kent; fourth, Lady Perfection, J. L. Stittsworth; fifth, Beulah, 29426, L. C. Reese; sixth, Mary 2nd, 45776, Wm. A. Hoover; seventh, Iowa Delight, 45936, Thos. F. Kent.

Sow Six Months, Under One Year—First, Grace H., 26504, E. L. Nagle & Son; second, Proud Queen, 32540, G. L. Emmert & Sons; third, Merl, 45636, Geo. A. Lasley; fourth, Peach Bud O. K., 29418, G. L. Emmert & Sons; fifth, Keep on Winners No. 1, L. C. Reese; sixth, Cora, R. F. Fantz; seventh, Lady Law, 28997, H. Meyer.

Sow Under Six Months—First, Joan OK, J. H. Mahannah; second, ————, Barr & Rae; third, Genieva, W. H. Dunbar; fourth, Gem's Pride I, 29420, L. C. Reese; fifth, Gem's Pride II, 29422, L. C. Reese; sixth, Nellie H, 26514, E. L. Nagle & Son; seventh, Genenie, 26512, E. L. Nagle & Son.



CHAMPION CHESTER WHITE BOAR
Iowa State Fair and Exposition, 1911

Senior Champion Boar—Pathfinder, 18179, L. C. Reese.

Junior Champion Boar—Hustler, 15769, E. L. Nagle & Son.

Senior Champion Sow—Iowa Production, 45848, Thos. F. Kent.

Junior Champion Sow—Grace H., 26504, E. L. Nagle & Son.

Grand Champion Boar—Pathfinder, 18179, L. C. Reese.

Grand Champion Sow—Grace H., 26504, E. L. Nagle & Son.

Boar and Three Sows Over One Year—First, L. C. Reese; second, G. L. Emmert & Sons; third, Wm. A. Hoover; fourth, L. C. Reese; fifth, Thos. F. Kent.

Boar and Three Sows Under One Year—First, E. L. Nagle & Son; second, J. H. Mahannah; third, L. C. Reese; fourth, Wm. A. Hoover; fifth, Wm. A. Hoover; sixth, G. L. Emmert & Sons; seventh, E. L. Nagle & Son.

Boar and Three Sows Over One Year, Bred by Exhibitor—First, G. L. Emmert & Sons; second, L. C. Reese; third, Wm. A. Hoover; fourth, L. C. Reese.

Boar and Three Sows Under One Year, Bred by Exhibitor—First, E. L. Nagle & Son; second, J. H. Mahannah; third, L. C. Reese; fourth, Wm. A. Hoover; fifth, Wm. A. Hoover; sixth, O. N. Phillips & Son; seventh, E. L. Nagle & Son.

Get of Sire—First, E. L. Nagle & Son; second, L. C. Reese; third, Wm. A. Hoover; fourth, J. H. Mahannah; fifth, G. L. Emmert & Sons; sixth, W. H. Dunbar; seventh, Wm. A. Hoover.

Produce of Sow—First, E. L. Nagle & Son; second, J. H. Mahannah; third, L. C. Reese; fourth, G. L. Emmert & Sons; fifth, Wm. A. Hoover; sixth, W. H. Dunbar; seventh, Wm. A. Hoover.

SPECIALS OFFERED BY WESTERN O. I. C. RECORDING CO.

Boar Under Six Months—Climax, R. F. Fantz.

Sow Under Six Months—Astra, R. F. Fantz.

Get of Sire, Under Six Months—R. F. Fantz.

Produce of Sow, Under Six Months—R. F. Fantz.

BERKSHIRES.

EXHIBITORS.

W. S. Corsa, White Hall, Illinois; C. A. Evans, Elliott, Iowa; Orlando Jacobs, Mediapolis, Iowa; Jno. C. Miller, Harlan, Iowa; Forest McPherson, Stuart, Iowa; Gilbert Van Patten, Sutton, Nebraska; H. E. Woods, Palmyra, Iowa; Rookwood Farm, Ames, Iowa; J. M. Higby, Boone, Iowa.

AWARDS.

JUDGE..........................W. B. RICHARDS, Fargo, N. D.

Boar Two Years or Over—First, Rival's Last, 122000, W. S. Corsa; second, Rival's Champions Best, 127963, Rookwood Farm; third, Master Pug, 121173, John C. Miller; fourth, Rookwood Champion's Best, 124926, Rookwood Farm; fifth, Master Duke 50th, 128400, W. S. Corsa; sixth, Premier Artist, 121765, H. E. Woods.

Boar Eighteen Months, Under Two Years—First, Robins Corrector, 133967, C. A. Evans; second, Mac's Farm Sensation, 138521, Forest S. McPherson.

Boar One Year, Under Eighteen Months—First, Golden Rival, W. S. Corsa; second, Master Jewell Duke, 151841, Forest S. McPherson; third, Baron Duke, 154, J. M. Higby; fourth, Valuable Prince 2nd, 136635, Orlando Jacobs.

Boar Six Months, Under One Year—First, Rival's Combination 2nd, W. S. Corsa; second, ————, Forest S. McPherson; third, ————, H. E. Woods; fourth, Homestead Star 20th, 141283, H. E. Woods; fifth, Elm Creek Premier, 151915, Jno. C. Miller; sixth, Expansion 2nd, 151804, C. A. Evans; seventh, ————, Orlando Jacobs.

Boar Under Six Months—First, Captain Stuart, 151850, Forest S. McPherson; second, Ames Rival 20th, 152781, Rookwood Farm; third, Ames Rival 21st, 152782, Rookwood Farm; fourth, ————, W. S. Corsa; fifth, Jake, Orlando Jacobs; sixth, Corrector 2nd, C. A. Evans.

Sow Two Years or Over—First, Mistresspiece, 119633, W. S. Corsa; second, Rival's Duchess 3rd, 108652, Rookwood Farm; third, Duke's Express 4th, 139933, Forest S. McPherson; fourth, Masterpiece's Handsome Lady, 123357, W. S. Corsa; fifth, Rookwood Rubicel 7th, 137439, Rookwood Farm; sixth, Model Leta 2nd, 113524, C. A. Evans; seventh, Rival's Banty 9th, 140322, John C. Miller.

Sow Eighteen Months, Under Two Years—First, Rival's Princess 2nd, 134527, W. S. Corsa; second, Rival's Lady 3rd, 134524, W. S. Corsa; third, Mac's Myrtle 6th, 151844, Forest S. McPherson; fourth, Young Amazina, 151807, C. A. Evans; fifth, Masterpiece Queen, 135856, John C. Miller.

Sow One Year, Under Eighteen Months—First, Masterpiece Dutchess Robinhood 7th, W. S. Corsa; second, Premier's Nina 7th, 151802, C. A. Evans; third, Matchless Perfection 10th, W. S. Corsa; fourth, Lady Jewel 3rd, 151842, ————————; fifth, Conqueror's Gem 2nd, 151802; sixth, Rookwood Lady 42nd, Rookwood Farm.

Sow Six Months, Under One Year—First, Mac's Myrtle, 8th, 151847, Forest S. McPherson; second, Mac's Myrtle 9th, 151848, Forest S. McPherson; third, Charmer Queen 40, W. S. Corsa; fourth, Stumpy Lady E, 151806, C. A. Evans; fifth, Rival Dutchess 16th, Rookwood Farm; sixth, Matchless Perfection 13, W. S. Corsa; seventh, Amazing Lady, 151805, C. A. Evans.

Sow Under Six Months—First, ————, W. S. Corsa; second, Rival Lady 33rd, 152787, Rookwood Farm; third, Lady Stuart, 151851, Forest S. McPherson; fourth, ————, W. S. Corsa; fifth, Rival Lady 34th, 152788, Rookwood Farm; sixth, Corrector's Belle, C. A. Evans; seventh, ————, Orlando Jacobs.

Senior Champion Boar—Rival's Last, 122000, W. S. Corsa.

Junior Champion Boar—Captain Stuart, 151850, Forest S. McPherson.

Senior Champion Sow—Masterpiece's Duchess Robinhood 7th, W. S. Corsa.

Junior Champion Sow—Mac's Myrtle 8th, Forest S. McPherson.

Grand Champion Boar—Rival's Last, 122000, W. S. Corsa.

Grand Champion Sow—Masterpiece's Duchess Robinhood 7th, W. S. Corsa.

Boar and Three Sows Over One Year—First, W. S. Corsa; second, W. S. Corsa; third, Rookwood Farm; fourth, Jno. C. Miller; fifth, Forest S. McPherson; sixth, C. A. Evans.

Boar and Three Sows Under One Year—First, Forest S. McPherson; second, Rookwood Farm; third, W. S. Corsa; fourth, W. S. Corsa; fifth, C. A. Evans; sixth, Jno. C. Miller.

Boar and Three Sows Over One Year, Bred by Exhibitor—First, W. S. Corsa; second, W. S. Corsa; third, Forest S. McPherson.

Boar and Three Sows Under One Year, Bred by Exhibitor—First, Forest S. McPherson; second, Rookwood Farm; third, W. S. Corsa; fourth, W. S. Corsa; fifth, Jno. C. Miller.

Get of Sire—First, W. S. Corsa; second, W. S. Corsa; third, Forest S. McPherson; fourth, Rookwood Farm; fifth, C. A. Evans.

Produce of Sow—First, Forest S. McPherson; second, W. S. Corsa; third, Rookwood Farm; fourth, C. A. Evans.

SPECIALS OFFERED BY AMERICAN BERKSHIRE ASSOCIATION.

Best Herd, Consisting of Boar and Three Sows Under One Year—Forest S. McPherson.

HAMPSHIRE.

EXHIBITORS.

A. M. Bear, Medora, Kansas; J. E. Beckendorf, Walnut, Iowa; R. J. Boles, Alta, Iowa; W. J. Brinigar & Sons, Blythedale, Missouri; Willie Essig, Tipton, Indiana; J. R. Lawson, Ravenwood, Missouri; Geo. Lippert, Magnolia, Illinois; Maxwell & Spangler, Creston, Iowa; Clayton Messenger, Keswick, Iowa; C M. Perrin, Mapleton, Iowa; J. F. Price, Medora, Kansas; F. T. Quire, Sully, Iowa; Ed. H. Sharp, Leon, Iowa; Mike Sharp & Son, Coal Valley, Illinois.

AWARDS.

JUDGE..........................WILSON ROWE, Ames, Iowa.

Boar Two Years or Over—First, Pat Maloy 1415, Willie Essig; second, Blythedale Jim, 2117, Geo. Lippert; third, Col. Brown, 2869, W. J. Brinigar; fourth, Orchard Hill Duke, 4765, W. J. Brinigar; fifth, Col. Stone, 2669, J. F. Price; sixth, Capt. Jack, 2045, Clayton Messenger.

Boar Eighteen Months, Under Two Years—First, Compeer, 4779, Willie Essig; second, Bacon King, 4763, W. J. Brinigar; third, Bollman's Cashier, 5407, Mike Sharp & Son; fourth, Belle Boy, 5671, Clayton Messenger; fifth, Smoky, 7425, Mike Sharp & Son.

Boar One Year, Under Eighteen Months—First, Messenger Boy, 6179, Clayton Messenger; second, Endwell, 6087, Willie Essig; third, Joe B., 7223, W. J. Brinigar; fourth, Dr. Scott, 6177, Willie Essig; fifth, Broiler, 6935, Mike Sharp & Son; sixth, Prince Blackfoot, 6395, C. M. Perrin; seventh, Ravenwood Boy, 5095, J. R. Lawson.

Boar Six Months, Under One Year—First, Blythedale Duke 3rd, 7369, W. J. Brinigar; second, Round Up, 7419, Mike Sharp & Son; third, Neat Jim, 7025, W. J. Brinigar; fourth, Steady, 7283, Willie Essig; fifth, Abidul Hamid, 6823, Clayton Messenger; sixth, Geno, 7243, Clayton Messenger; seventh, Big Boy, 7433, C. M. Perrin.

Boar Under Six Months—First, Hawkeye, 7383, F. T. Quire; second, Iowa Banner, 7379, F. T. Quire; third, Queen's Colonel, 7859, Willie Essig; fourth, The Professor, Geo. Lippert; fifth, Dandy, 7861, Willie Essig; sixth, Anchor, Mike Sharp & Sons; seventh, Blythedale Lad, 7373, W. J. Brinigar.

Sow Two Years or Over—First, Gold Litter, 4614, Mike Sharp & Sons; second, Utility Lass, 9578, Willie Essig; third, Remsen Queen, R. J. Boles; fourth, Silvia, 2398, Clayton Messenger; fifth, Walnut Dell, 3288, Clayton Messenger; sixth, Eclipse Beauty, 5034, A. M. Bear; seventh, Susan Jane, 2480, Geo. Lippert.

Sow Eighteen Months, Under Two Years—First, Golden Locke, 8900, Mike Sharp & Sons; second, Prairie Queen, 7168, Willie Essig; third, Mabel, 8368, Mike Sharp & Sons; fourth, Catalpa Lass, 8406, Clayton Messenger; fifth, Miss Mona, 8264, W. J. Brinigar; sixth, Regal, 8502, Willie Essig.

Sow One Year, Under Eighteen Months—First, Topsy, 11966, Mike Sharp & Sons; second, Lunna Ann, 119958, Mike Sharp & Sons; third, Huldah, 9536, Willie Essig; fourth, Perrin's Beauty, 8592, C. M. Perrin; fifth, Miss Beauty, 12158, W. J. Brinigar; sixth, Christine, 12148, W. J. Brinigar; seventh, Hawkeye Princess, 12400, C. M. Perrin.

Sow Six Months, Under One Year—First, Missouri's Best, 13058, W. J. Brinigar; second, Myra Boothe, 13184, Mike Sharp & Sons; third, Missouri Beauty, 13506, W. J. Brinigar; fourth, Hawkeye Rose, 12384, C. M. Perrin; fifth, Hawkeye Daisy, 12396, C. M. Perrin; sixth, Cora, 13188, Mike Sharp & Sons; seventh, Sunshine Queen, 13034, Willie Essig.

Sow Under Six Months—First, Miss Professor, 13308, Geo. Lippert; second, May Flower, Mike Sharp & Sons; third, Elmside Maid, 13890, Willie Essig; fourth, Vina, 13930, Willie Essig; fifth, Nice, 13054, W. J. Brinigar; sixth, Curley Tail, J. R. Lawson; seventh, Bessie, 13090, F. T. Quire.

Senior Champion Boar—Pat Maloy, 1415, Willie Essig.

Junior Champion Boar—Blythedale Duke 3rd, 7369, W. J. Brinigar.

Senior Champion Sow—Gold Litter, 4614, Mike Sharp & Sons.

Junior Champion Sow—Missouri's Best, 13058, W. J. Brinigar.

Grand Champion Boar—Pat Maloy, 1415, Willie Essig.

Grand Champion Sow—Gold Litter, 4614, Mike Sharp & Sons.

Boar and Three Sows Over One Year—First, Mike Sharp & Sons; second, Willie Essig; third, Clayton Messenger; fourth, Geo. Lippert; fifth, Willie Essig; sixth, W. J. Brinigar; seventh, C. M. Perrin.

Boar and Three Sows Under One Year—First, W. J. Brinigar; second, Mike Sharp & Sons; third, Willie Essig; fourth, C. M. Perrin; fifth, Geo. Lippert; sixth, Clayton Messenger.

Boar and Three Sows Over One Year, Bred by Exhibitor—First, Mike Sharp & Sons; second, Clayton Messenger; third, Willie Essig; fourth, Willie Essig; fifth, W. J. Brinigar; sixth, C. M. Perrin.

Boar and Three Sows Under One Year, Bred by Exhibitor—First, W. J. Brinigar; second, Mike Sharp & Sons; third, Willie Essig; fourth, C. M. Perrin; fifth, Geo. Lippert; sixth, Clayton Messenger; seventh, Ed. H. Sharp.

FIRST PRIZE HAMPSHIRE HERD
Iowa State Fair and Exposition, 1911

Get of Sire—First, Mike Sharp & Sons; second, W. J. Brinigar; third, C. M. Perrin; fourth, Mike Sharp & Sons; fifth, Geo. Lippert; sixth, Willie Essig; seventh, Clayton Messenger.

Produce of Sow—First, W. J. Brinigar; second, Geo. Lippert; third, Mike Sharp & Sons; fourth, Willie Essig; fifth, C. M. Perrin; sixth, Ed. H. Sharp; seventh, Clayton Messenger.

SPECIAL PRIZE OFFERED BY AMERICAN HAMPSHIRE SWINE RECORD ASSOCIATION.

Four Pigs Any Sex, Under Six Months, Bred and Owned by Breeder Who Is Resident of Iowa—First, Clayton Messenger; second, C. M. Perrin; third, Maxwell & Spangler.

SPECIAL PRIZE OFFERED BY THE HAMPSHIRE ADVOCATE.

Best Pair Pigs, Owned by Iowa Exhibitor—First, Clayton Messenger; second, C. M. Perrin; third, Maxwell & Spangler.

LARGE YORKSHIRE.

EXHIBITORS.

B. F. Davidson, Menlo, Iowa; B. F. Kunkle, Redfield, Iowa.

AWARDS.

JUDGE....................FRANK THORNBER, Carthage, Illinois.

Boar Two Years or Over—First, Lake Park Corrector, 7907, B. F. Davidson; second, Lake Park Navigator, 12161, B. F. Kunkle.

Boar Eighteen Months, Under Two Years—Deer Creek Dalmany 9th, 13316, B. F. Kunkle.

Boar One Year, Under Eighteen Months—First, Oak Grove Boy, 2nd, 14473, B. F. Kunkle.

Boar Six Months, Under One Year—First, Oak Grove Lick 1st, 14466, B. F. Kunkle; second, Deer Creek Long Lad 10th, 14985, B. F. Davidson.

Boar Under Six Months—Davidson's Model 4th, 14986, B. F. Davidson; second, Davidson's Model 5th, 14987, B. F. Davidson.

Sow Two Years or Over—First, Deer Creek Beauty 10th, 11012, B. F. Davidson; second, Deer Creek Duchess 5th, B. F. Davidson.

Sow Eighteen Months, Under Two Years—First, Deer Creek Daisy, 5th, 13314, B. F. Davidson; second, Oak Grove Maud 4th, 14931, B. F. Kunkle.

Sow One Year, Under Eighteen Months—First, Davidson's Model 2nd, 13659, B. F. Davidson; second, Oak Grove Bell 2nd, 14477, B. F. Kunkle.

Sow Six Months, Under One Year—First, Deer Creek Daisy 9th, 14983, B. F. Davidson; second, Deer Creek Daisy 10th, 14984, B. F. Davidson.

Sow Under Six Months—First, Davidson's Model 7, 14989, B. F. Davidson; second, Davidson's Model 6th, 14988, B. F. Davidson.

Senior Champion Boar—B. F. Davidson.

Junior Champion Boar—B. F. Kunkle.

Senior Champion Sow—B. F. Davidson.

Junior Champion Sow—B. F. Davidson.

Grand Champion Boar—B. F. Davidson.

Grand Champion Sow—B. F. Davidson.

Boar and Three Sows Over One Year—First, B. F. Davidson; second, B. F. Kunkle.

Boar and Three Sows Under One Year—First, B. F. Davidson; second, B. F. Kunkle.

Boar and Three Sows Over One Year, Bred by Exhibitor—First, B. F. Davidson; second, B. F. Kunkle.

Boar and Three Sows Under One Year, Bred by Exhibitor—First, B. F. Davidson; second, B. F. Kunkle.

Get of Sire—First, B. F. Davidson; second, B. F. Kunkle.

Produce of Sow—First, B. F. Davidson; second, B. F. Kunkle.

SPECIALS OFFERED BY AMERICAN YORKSHIRE CLUB.

Young Herd, Consisting of Boar and Three Sows, Bred by Exhibitor—First, B. F. Davidson.

TAMWORTH.

EXHIBITORS.

C. C. Roup, Iowa City, Iowa; Geo. N. Weighton, Audubon, Iowa.

AWARDS.

JUDGE....................FRANK THORNBER, Carthage, Illinois.

Boar Two Years or Over—First, Thorndale Jim 3rd, 5697, C. C. Roup; second, Audubon's Pride, Geo. N. Weighton.

Boar Eighteen Months' Under Two Years—First, Hill Crest Perfection, 61113 D, C. C. Roup.

Boar One Year, Under Eighteen Months—First, Ole, Geo. N. Weighton; second, Knoll Slope Diamond, 7501, C. C. Roup.

Boar Six Months, Under One Year—First, Audubon's Choice, Geo. N. Weighton.

Boar Under Six Months—First, Knollslope Advance, C. C. Roup.

Sow Two Years or Over—First, Knowle Tallana 6, 4734, C. C. Roup.

Sow Eighteen Months, Under Two Years—First, Ez Knowle Best, 6951, C. C. Roup.

Sow One Year, Under Eighteen Months—First, Knoll Slope Almeda, 8458, C. C. Roup.

Sow Six Months, Under One Year—First, Sunshine 3rd, Geo. N. Weighton.

Sow Under Six Months—First, Knoll Slope Baniff 2nd, C. C. Roup.

Senior Champion Boar—C. C. Roup.

Junior Champion Boar—Geo. N. Weighton.

Senior Champion Sow—C. C. Roup.

Junior Champion Sow—C. C. Roup.

Grand Champion Boar—C. C. Roup.

Grand Champion Sow—C. C. Roup.

Boar and Three Sows Over One Year—First, C. C. Roup.

Boar and Three Sows Under One Year—First, C. C. Roup; second, Geo. N. Weighton.

Boar and Three Sows Over One Year, Bred by Exhibitor—First, C. C. Roup.

Boar and Three Sows Under One Year, Bred by Exhibitor—First, C. C. Roup; second, Geo. N. Weighton.

Get of Sire—First, C. C. Roup; second, Geo. N. Weighton.

Produce of Sow—First, C. C. Roup; second, Geo. N. Weighton.

SHEEP DEPARTMENT.

SUPERINTENDENT....:........JNO. F. SUMMERS, Malvern, Iowa.

MERINOS, AMERICAN, SPANISH OR DELAINE.

EXHIBITORS.

A. J. Blakely, Grinnell, Iowa; Uriah Cook & Sons, Peoria, Ohio; Samuel Rail & Sons, Birmingham, Iowa.

AWARDS.

JUDGE....................C. A. STEELE, New Moorefield, Ohio.

Ram Two Years Old or Over—First and second, Uriah Cook & Sons; third, A. J. Blakely.

Ram One Year Old and Under Two—First and second, Uriah Cook & Sons; third, A. J. Blakely.

Ram Lamb—First and second, Uriah Cook & Sons; third, A. J. Blakely.

Ewe Two Years Old or Over—First and second, Uriah Cook & Son; third, A. J. Blakely.

Ewe One Year Old and Under Two—First and second, Uriah Cook & Son; third, A. J. Blakely.

Ewe Lamb—First and second, Uriah Cook & Sons; third, A. J. Blakely.

Champion Ram, Any Age—Uriah Cook & Sons.

Champion Ewe, Any Age—Uriah Cook & Sons.

Get of Sire—First, Uriah Cook & Sons; second, A. J. Blakely.

Flock—First, Uriah Cook & Sons; second, A. J. Blakely.

RAMBOUILLET.

EXHIBITORS.

F. W. Cook, West Mansfield, Ohio; F. S. King Bros. Co., Laramie, Wyo.; Robt. Taylor, Abbott, Nebraska.

AWARDS.

JUDGE........................C. A. STEELE, New Moorefield, Ohio.

Ram Two Years Old or Over—First, Wyoming Boy, 52084, F. S. King Bros. Co.; second, Laramie Boy, 52087, F. S. King Bros. Co.; third, ———, F. W. Cook.

Ram One Year Old and Under Two—First, Thickset, 59513, F. S. King Bros. Co.; second, Longfellow, 59512, F. S. King Bros. Co.; third, ———, F. W. Cook.

Ram Lamb—First, Ben Hur, Jr., F. S. King Bros. Co.; second, ———, F. W. Cook; third, McKnab, F. S. King Bros. Co.

Ewe Two Years Old or Over—First, Jean, 59716, F. S. King Bros. Co.; second, Lady K, 53761, F. S. King Bros. Co.; third, ———, F. W. Cook.

Ewe One Year Old and Under Two—First, ———, F. S. King Bros. Co.; second, ———, F. S. King Bros. Co.; third, ———, F. W. Cook.

Ewe Lamb—First, F. S. King Bros. Co.; second, F. W. Cook; third, F. S. King Bros. Co.

Champion Ram Any Age—Wyoming Boy, 52084, F. S. King Bros. Co.

Champion Ewe Any Age—Jean, 59716, F. S. King Bros. Co.

Get of Sire—First, F. S. King Bros. Co.; second, F. W. Cook.

Flock—First, F. S. King Bros. Co.; second, F. W. Cook.

COTSWOLD.

EXHIBITORS.

Wm. Cooper & Nephews Co., Chicago, Illinois; Joy Lewis, Camp Point, Illinois; Lewis Bros., Camp Point, Illinois.

AWARDS.

JUDGE....................W. H. BEATTIE, Wilton Grove, Ontario.

Ram Two Years Old or Over—First and second, Lewis Bros.; third, Wm. Cooper & Nephews.

Ram One Year Old and Under Two—First, Lewis Bros.; second and third, Cooper & Nephews Co.

Ram Lamb—First, Wm. Cooper & Nephews Co.; second, Lewis Bros.; third, Wm. Cooper & Nephews Co.

Ewe Two Years Old or Over—First and second, Lewis Bros.; third, Wm. Cooper & Nephews Co.

Ewe One Year Old and Under Two—First, Wm. Cooper & Nephews Co.; second, Lewis Bros.; third, Wm. Cooper & Nephews Co.

Ewe Lamb—First, Wm. Cooper & Nephews Co.; second and third, Lewis Bros.

Champion Ram Any Age—Garnes 154th, 66856, Lewis Bros.

Champion Ewe Any Age—Cooper's Champion, Wm. Cooper & Nephews Co.

Flock—First, Lewis Bros.; second, Wm. Cooper & Nephews Co.

LINCOLN.

EXHIBITORS.

Alex. W. Arnold, Galesville, Wisconsin.

AWARDS.

JUDGE..................W. H. BEATTIE, Wilton Grove, Ontario.

Ram Two Years Old or Over—First, Riley Judge 8th, 19450, Alex. W. Arnold; second, A. W. A. 104, 19505, Alex. W. Arnold.

Ram One Year Old and Under Two—First, ————, Alex. W. Arnold; second, A. W. A. 117, 22884, Alex. W. Arnold.

Ram Lamb—First, ————, Alex. W. Arnold; second, ————, Alex. W. Arnold.

Ewe Two Years Old or Over—First, Dudding No. 56, 19456, Alex. W. Arnold; second, Dudding No. 259, 19455, Alex. W. Arnold.

Ewe One Year Old and Under Two—First, ———, Alex. W. Arnold; second, ———, Alex. W. Arnold.

Ewe Lamb—First, ———, Alex. W. Arnold; second, ———, Alex. W. Arnold.

Champion Ram, Any Age—Dudding's Export No. 91, 23164, Alex. W. Arnold.

Champion Ewe Any Age—Dudding's Export No. 7, 23165, A. W. Arnold.

Get of Sire—First, Alex. W. Arnold.

Flock—First, Alex. W. Arnold.

HAMPSHIRE DOWNS.

EXHIBITORS.

Geo. McKerrow & Sons, Pewaukee, Wisconsin; Wm. F. Renk, Sun Prairie, Wisconsin; Robert Taylor, Abbott, Nebraska; Cooper & Nephews Co., Chicago, Illinois; Alex. W. Arnold, Galesville, Wisconsin.

AWARDS.

JUDGE..................W. H. BEATTIE, Wilton Grove, Ontario.

Ram Two Years Old or Over—First and second, Wm. Cooper & Nephews Co.; third and fourth, Wm. F. Renk.

Ram One Year and Under Two—First, Wm. Cooper & Nephews Co.; second, Wm. Renk; third, Wm. Cooper & Nephews Co.

Ram Lamb—First and second, Wm. Cooper & Nephews Co.; third and fourth, Wm. Renk.

Ewe Two Years Old or Over—First, Wm. F. Renk; second, Wm. Cooper & Nephews Co.; third, Wm. F. Renk; fourth, Wm. Cooper & Nephews Co.

Ewe One Year Old and Under Two—First, Wm. Cooper & Nephews Co.; second and third, Wm. F. Renk; fourth, Wm. Cooper & Nephews Co.

Ewe Lamb—First and second, Wm. Cooper & Nephews Co.; third and fourth, Wm. F. Renk.

Champion Ram Any Age—First, Wm. Cooper & Nephews Co.

Champion Ewe Any Age—First, Wm. Cooper & Nephews Co.

Get of Sire—First, Alex. W. Arnold.

Flock—First, Wm. Cooper & Nephews Co.; second, Wm. F. Renk.

SHROPSHIRES.

EXHIBITORS.

A. W. Arnold, Galesville, Wisconsin; E. L. Bitterman, Mason City, Iowa; Chandler Bros., Chariton, Iowa; Wm. Cooper & Nephews Co., Chicago, Illinois; R. F. & W. M. Fantz, New Hampton, Iowa; W. O. Fritchman, Muscatine, Iowa; Theo. Martin, Bellevue, Iowa; Geo. McKerrow & Sons, Pewaukee, Wisconsin; O. H. Peasley & Son, Indianola, Iowa; Parsons & Son, Chariton, Iowa; J. L. Plumly, Altoona, Iowa; Wm. F. Renk, Sun Prairie, Wisconsin; R. A. Satterly, Farmington, Iowa; W. A. Taylor & Sons, Ames, Iowa; C. J. Wilkinson, Colfax, Iowa; J. S. Fawcett & Son, Springdale, Iowa.

AWARDS.

JUDGE..................W. H. BEATTIE, Wilton Grove, Ontario.

Ram Two Years Old or Over—First, Wm. F. Renk; second and third, Geo. McKerrow & Sons; fourth, Chandler Bros.

Ram One Year Old and Under Two—First, Chandler Bros.; second and third, Geo. McKerrow & Sons; fourth, Chandler Bros.

Ram Lamb—First, Chandler Bros.; second, Wm. F. Renk; third, Chandler Bros.; fourth, Wm. Cooper & Nephews Co.

Ewe Two Years Old or Over—First, Wm. F. Renk; second, Chandler Bros.; third, Wm. F. Renk; fourth, Geo. McKerrow & Sons.

Ewe One Year Old and Under Two—First and second, Chandler Bros.; third, Wm. F. Renk; fourth, Wm. Cooper & Nephews Co.

Ewe Lamb—First, Geo. McKerrow & Sons; second, Wm. F. Renk; third and fourth, Chandler Bros.

Champion Ram Any Age—Chandler Bros.

Champion Ewe Any Age—Chandler Bros.

Get of Sire—First, J. S. Fawcett & Son; second, O. H. Peasley & Son; third, E. L. Bitterman; fourth, Alex. W. Arnold.

Flock—First, Chandler Bros.; second, Wm. F. Renk; third, Geo. McKerrow & Sons; fourth, Wm. Cooper & Nephews Co.

IOWA SHROPSHIRE SPECIALS.

Ram Two Years Old or Over—First, Maple Grove King, 298796, W. A. Taylor; second, Wilkinson's 145, 321002, C. J. Wilkinson; third, Plumly's 361, 33858, J. L. Plumly; fourth, Maple Grove Eclipse, 298795, W. A. Taylor; fifth, Plumly's 341, 333847, J. L. Plumly.

Ram One Year Old and Under Two—First, ————, Chandler Bros.; second, East View's Success, 342413, E. L. Bitterman; third, East View's

Hello, 342399, E. L. Bitterman; fourth, Maple Grove Ringmaster, 322037, W. A. Taylor & Son; fifth, ———, 342746, O. H. Peasley & Son.

Ram Lamb—First, East View's Ambition, 342831, E. L. Bitterman; second, Masterpiece, 343049, J. S. Fawcett & Sons; third, East View's Duke, 342403, E. L. Bitterman; fourth, Satterly's 29th, 342937, R. A. Satterly; fifth, Plumly's 350th, 342854, J. L. Plumly.

Ewe Two Years Old or Over—First, ———, Chandler Bros.; second, East View's Fern, 321575, E. L. Bitterman; third, ———, O. H. Peasley & Son; fourth, ———, O. H. Peasley & Son; fifth, Satterly's 23rd, 333032, R. A. Satterly.

Ewe One Year Old and Under Two—First, ———, O. H. Peasley & Son; second, Maple Grove Columbine, 322042, W. A. Taylor & Son; third, Satterly's 48th, 342942, R. A. Satterly; fourth, E. L. Bitterman; fifth, ———, O. H. Peasley & Son.

Ewe Lamb—First, ———, J. S. Fawcett & Son; second, ———, E. L. Bitterman; third, ———, J. S. Fawcett & Son; fourth, ———, W. A. Taylor & Son; fifth, ———, O. H. Peasley & Son.

Champion Ram Any Age—Maple Grove King, 298796, W. A. Taylor.

Champion Ewe Any Age———, Chandler Bros.

Get of Sire—First, E. L. Bitterman; second, R. A. Satterly; third, W. A. Taylor & Son; fourth, J. A. Taylor.

Flock—First, W. A. Taylor & Son; second, E. L. Bitterman; third, O. H. Peasley & Son; fourth, J. S. Fawcett & Son.

SPECIALS OFFERED BY AMERICAN SHROPSHIRE REGISTRY ASSOCIATION.

Ram Two Years Old or Over—First, Maple Grove King, 29876, W. A. Taylor; second, Wilkin's 145th, 321062, C. J. Wilkinson; third, Plumly's 361st, 33858, J. L. Plumly.

Ram One Year Old and Under Two—First, ———, Chandler Bros.; second, East View's Success, 342413, E. L. Bitterman; third, East View's Hello, 342399, E. L. Bitterman.

Ram Lamb—First, East View's Ambition, 342831, E. L. Bitterman; second, Masterpiece, 343049, J. S. Fawcett & Son; third, East View's Duke, 342403, E. L. Bitterman.

Ewe Two Years Old or Over—First, ———, Chandler Bros.; second, East View's Fern, 321575, E. L. Bitterman; third, ———, O. H. Peasley & Son.

Ewe One Year Old and Under Two—First, ———, O. H. Peasley & Son; second, ———, R. A. Satterly; third, W. A. Taylor & Son.

Ewe Lamb—First, ———, J. S. Fawcett & Son; second, ———, E. L. Bitterman; third, ———, J. S. Fawcett & Son.

Champion Ram Any Age—Maple Grove King, 298796, W. A. Taylor & Son.

Champion Ewe Any Age————, Chandler Bros.

Get of Sire—First, E. L. Bitterman; second, J. S. Fawcett & Son; third, R. A. Satterly.

Flock—First, W. A. Taylor & Son; second, E. L. Bitterman; third, O. H. Peasley & Son.

OXFORD DOWNS.

EXHIBITORS.

C. C. Croxen, Atalissa, Iowa; Wm. Cooper & Nephews Co., Chicago, Illinois; John Graham & Son, Eldora, Iowa; C. S. Hechtner, Chariton, Iowa; Geo. McKerrow & Sons, Pewaukee, Wis.

AWARDS.

JUDGE.................W. H. BEATTIE, Wilton Grove, Ontario.

Ram Two Years Old or Over—First, Geo. McKerrow & Sons; second and third, Wm. Cooper & Nephews Co.; fourth, John Graham & Son.

Ram One Year Old and Under Two—First and second, Geo. McKerrow & Sons; third, Graham's 753, 58244, Jno. Graham & Son; fourth, Wm. Cooper & Nephews Co.

Ram Lamb—First, Wm. Cooper & Nephews Co.; second, C. S. Hechtner; third, Geo. McKerrow & Sons; fourth, Wm. Cooper & Nephews Co.

Ewe Two Years or Over—First and second, Geo. McKerrow & Sons; third and fourth, Wm. Cooper & Nephews Co.

Ewe One Year Old and Under Two—First, C. S. Hechtner; second, Geo. McKerrow & Sons; third, Wm. Cooper & Nephews Co.; fourth, Geo. McKerrow & Sons.

Ewe Lamb—First and second, Wm. Cooper & Nephews Co.; third and fourth, Geo. McKerrow & Sons.

Champion Ram Any Age—Geo. McKerrow & Sons.

Champion Ewe Any Age—C. S. Hechtner.

Get of Sire—First and second, Jno. Graham & Son; third, C. C. Croxen; fourth, C. S. Hechtner.

Flock—First, Geo. McKerrow & Sons; second, Wm. Cooper & Nephews Co.; third, C. S. Hechtner; fourth, Jno. Graham & Son.

IOWA OXFORD SPECIALS.

Ram Two Years Old or Over—First and second, John Graham & Son; third, C. C. Croxen; fourth, C. S. Hechtner.

Ram One Year Old and Under Two—First, C. S. Hechtner; second, John Graham & Son; third, C. C. Croxen; fourth, John Graham & Son.

Ram Lamb—First, C. C. Croxen; second, John Graham & Son; third, C. C. Croxen; fourth, John Graham & Son.

Ewe Two Years Old or Over—First and second, John Graham & Son; third, C. S. Hechtner; fourth, C. C. Croxen.

Ewe One Year Old and Under Two—First and second, C. S. Hechtner; third, C. C. Croxen; fourth, Jno. Graham & Son.

Ewe Lamb—First and second, Jno. Graham & Son; third, C. C. Croxen; fourth, C. S. Hechtner.

Champion Ram Any Age—Jno. Graham & Son.

Champion Ewe Any Age—Jno. Graham & Son.

Get of Sire—First, Jno. Graham & Son; second, C. C. Croxen; third, C. S. Hechtner.

Flock—First, Jno. Graham & Son; second, C. S. Hechtner; third, C. C. Croxen.

SOUTHDOWN.

EXHIBITORS.

Alex. W. Arnold, Galesville, Wisconsin; Wm. Cooper & Nephews Co., Chicago, Illinois; R. F. Fantz, New Hampton, Iowa; R. F. & W. M. Fantz, New Hampton, Iowa.

AWARDS.

JUDGE..................W. H. BEATTIE, Wilton Grove, Ontario.

Ram Two Years Old or Over—First and second, Wm. Cooper & Nephews Co.; third, Nithside 20th, 25308, Alex. W. Arnold.'

Ram One Year Old and Under Two—First, Fantz's 50, 26443, second, R. F. Fantz.

Ram Lamb—First, Fantz's 51st, Wm. Cooper & Nephews Co.; second and third, Alex. W. Arnold.

Ewe Two Years Old or Over—First and second, Wm. Cooper & Nephews Co.; third, R. F. Fantz, New Hampton.

Ewe One Year Old and Under Two—First, Alex. W. Arnold; second, McEwen's Ewe, 32R, R. F. Fantz; third, Wm. Cooper & Nephews Co.

Ewe Lamb—First, Fantz 54th, R. F. Fantz; second, Fantz's 52nd, R. F. Fantz; third, ———, Alex. W. Arnold.

Champion Ram Any Age—Wm. Cooper & Nephews Co.

Champion Ewe Any Age—Alex. W. Arnold.

Get of Sire—First, R. F. Fantz; second, Alex. W. Arnold.

Flock—First, R. F. Fantz; second, Alex. W. Arnold.

DORSET.

EXHIBITORS.

Alex. W. Arnold, Galesville, Wisconsin; Nash Bros., Tipton, Indiana.

AWARDS.

JUDGE....................W. H. BEATTIE, Wilton Grove, Ontario.

Ram Two Years Old or Over—First, Nash Bros.

Ram One Year Old and Under Two—First, Flower's One, 12236, Alex. W. Arnold; second, Nash Bros.

Ram Lamb—First and second, Nash Bros.

Ewe Two Years Old or Over—First, Flower's Three, 12238, Alex. W. Arnold; second, Nash Bros.

Ewe One Year Old and Under Two—First, ———, Nash Bros.; second, Flower's Two, 12237, Alex. W. Arnold.

Ewe Lamb—First, Flower's Four, 12239, Alex. W. Arnold; second and third, Nash Bros.

Champion Ram Any Age—Flower's One, 12236, Alex. W. Arnold.

Champion Ewe Any Age—Flower's Four, 12239, Alex. W. Arnold.

Get of Sire—First, Nash Bros.

Flock—First, Alex. W. Arnold; second, Nash Bros.

CHEVIOT.

EXHIBITORS.

Alex. W. Arnold, Galesville, Wisconsin; G. W. Parnell, Wingate, Indiana; F. L. Postle & Sons, Camp Chase, Ohio.

AWARDS.

JUDGE..................................JAS. SCOTT, Scotland.

Ram Two Years Old or Over—First, Daniel Boone, 5957, F. L. Postle & Sons; second and third, G. W. Parnell.

Ram One Year Old and Under Two—First and second, G. W. Parnell; third, Rob, 6564, F. L. Postle & Sons.

Ram Lamb—First, White Stock's Hope, 7061, F. L. Postle & Sons; second, White Stock's Harry, 7062, F. L. Postle & Sons; third, ———, Alex. W. Arnold.

Ewe Two Years Old or Over—First, F. L. Postle & Sons; second and third, C. W. Parnell.

Ewe One Year Old and Under Two—First and second, G. W. Parnell; third, Edna, 6560, F. L. Postle & Sons.

Ewe Lamb—First, ———, G. W. Parnell; second, My Lady, 7066, F. L. Postle & Sons; third, ———, G. W. Parnell.

Champion Ram Any Age—G. W. Parnell.

Champion Ewe Any Age—F. L. Postle & Son.

Get of Sire—First, F. L. Postle & Sons; second, G. W. Parnell; third, Alex. W. Arnold.

Flock—First, G. W. Parnell; second, F. L. Postle & Sons; third, Alex. W. Arnold.

POULTRY DEPARTMENT.

SUPERINTENDENT............JNO. F. SUMMERS, Malvern, Iowa.

AMERICANS.

EXHIBITORS.

Mrs. Jessie Alexander, Altoona, Iowa; A. L. Anderson, Indianola, Iowa; J. M. Brown, St. Charles, Iowa; Dr. Thomas P. Bond, Des Moines, Iowa; J. H. Chandler, Des Moines, Iowa; J. W. Clark, Scranton, Iowa; E. B. Cramblitt, Ames, Iowa; Israel Drought, Des Moines, Iowa; Roger Finkbine, Des Moines, Iowa; Sherman L. Kline, Scranton, Iowa; C. A. Kenworthy, Des Moines, Iowa; Mrs. A. H. Ketchum, Des Moines, Iowa; Beatrice Mansfield, Altoona, Iowa; J. R. McDonald, Des Moines, Iowa; Tom Oxenfield, Marshalltown, Iowa; Lon Polleck, Afton, Iowa; L. S. Papousek, Moorland, Iowa; D. W. Rich, Mt. Pleasant, Iowa; F. L. Reinhard & Sons, Ottumwa, Iowa; C. R. Rauch, Lamoni, Iowa; T. L. Ricksecker, Rosedale, Kansas; C. W. Reeder, Leon, Iowa; E. G. Roberts, Fort Atkinson, Wisconsin; Julius Sinn, Williamsburg, Iowa; Anthony Stocker, Des Moines, Iowa; A. D. Severe, Dows, Iowa; F. F. & V. G. Warner, Bloomfield, Iowa; R. E. Ward, Cedar Rapids, Iowa; E. & A. Walrath, Des Moines, Iowa; Palisade Park Poultry Farm, Iowa Falls, Iowa.

AWARDS.

JUDGE........................W. S. RUSSELL, Ottumwa, Iowa.

Barred Plymouth Rock Cock—First, E. G. Roberts; second (59), J. H. Chandler; third (18), R. E. Ward.

Barred Plymouth Rock Cockerel—First, E. G. Roberts; second (1), F. L. Reinhard & Son; third (100), J. H. Chandler.

Barred Plymouth Rock Hen—First (27), E. G. Roberts; second (25), R. E. Ward; third (22), Lon Pollock.

Barred Plymouth Rock Pullet—First, E. G. Roberts; second (86) and third (97), J. H. Chandler.

White Plymouth Rock Cock—First (841), second (900) and third (100), A. D. Severe.

White Plymouth Rock Cockerel—First (97), A. D. Severe; second, E. G. Roberts.

White Plymouth Rock Hen—First (838) and second (27), A. D. Severe; third (12), L. S. Papousek.

White Plymouth Rock Pullet—First, E. G. Roberts; second (147), A. D. Severe.

Buff Plymouth Rock Cock—First, E. G. Roberts.

Buff Plymouth Rock Cockerel—First (33), Peter Hove; second, E. G. Roberts; third (1074), Palisade Park Poultry Farm.

Buff Plymouth Rock Hen—First, E. G. Roberts.

Buff Plymouth Rock Pullet—First (29) and second (34), Peter Hove; third (97077), Palisade Park Poultry Farm.

Partridge Plymouth Rock Cock—First, C. W. Reeder.

Partridge Plymouth Rock Cockerel—First (102) and second (125), C. W. Reeder.

Partridge Plymouth Rock Hen—First (258), second (342) and third (330), J. W. Clark.

Partridge Plymouth Rock Pullet—First (57), J. W. Clark; second (6) and third (8), Mrs. Jessie Alexander.

Silver Wyandotte Cock—First (1), J. R. McDonald.

Silver Wyandotte Cockerel—First (299), second (300) and third (298), F. F. & V. G. Warner.

Silver Wyandotte Hen—First (297), F. F. & V. G. Warner; second (11) and third (37), J. R. McDonald.

Silver Wyandotte Pullet—First (286), F. F. & V. G. Warner; second (38) and third (20), J. R. McDonald.

Golden Wyandotte Cock—First (18), Julius Sinn; second (92), E. G. Roberts; third (19), Julius Sinn.

Golden Wyandotte Cockerel—First (50), second (48) and third (51), Julius Sinn.

Golden Wyandotte Hen—First (16) and second (17), Julius Sinn; third (52), E. G. Roberts.

Golden Wyandotte Pullet—First (46), second (15) and third (47), Julius Sinn.

White Wyandotte Cock—First (3), Dr. Thos. P. Bond; second (4), Anthony Stocker; third (2), Dr. Thos. P. Bond.

White Wyandotte Cockerel—First (72), J. M. Knowles; second (6) and third (5), Anthony Stocker.

White Wyandotte Hen—First (81), Beatrice Mansfield; second (78) and third (46), Dr. Thos. P. Bond.

White Wyandotte Pullet—First (98), Beatrice Mansfield; second, E. G. Roberts; third (80), Beatrice Mansfield.

Buff Wyandotte Cock—First (143), E. G. Roberts; second (105), A. L. Anderson.

Buff Wyandotte Cockerel—First (273), F. F. & V. G. Warner; second (86) and third (84), A. L. Anderson.

Buff Wyandotte Hen—First (89), E. G. Roberts; second (83), A. L. Anderson; third (272), F. F. & V. G. Warner.

Buff Wyandotte Pullet—First (271), F. F. & V. G. Warner; second (97) and third (80), A. L. Anderson.

Black Wyandotte Cock—First, E. G. Roberts.

Black Wyandotte Hen—First, E. G. Roberts.

Partridge Wyandotte Cock—First (51), Israel Drought; second, E. G. Roberts.

Partridge Wyandotte Cockerel—First (303), F. F. & V. G. Warner; second (54), Israel Drought; third (302), F. F. & V. G. Warner.

Partridge Wyandotte Hen—First (53), Israel Drought; second (304), F. F. & V. G. Warner; third, E. G. Roberts.

Partridge Wyandotte Pullet—First (309), F. F. & V. G. Warner.

Silver Penciled Wyandotte Cock—First (583), F. F. & V. G. Warner.

Silver Penciled Wyandotte Cockerel—First (264) and second (265), F. F. & V. G. Warner.

Silver Penciled Wyandotte Hen—First (262) and second (585), F. F. & V. G. Warner.

Silver Penciled Wyandotte Pullet—First (260) and second (261), F. F. and V. G. Warner.

Columbian Wyandotte Cock—First, E. G. Roberts.

Columbian Wyandotte Hen—First, E. G. Roberts; second (12) and third (13), E. & A. Walrath.

Columbian Wyandotte Pullet—First (14), E. & A. Walrath.

Mottled Java Cock—First, E. G. Roberts.

Mottled Java Hen—First, E. G. Roberts.

R. C. Dominique Cock—First and second, E. G. Roberts.

R. C. Dominique Cockerel—First, E. G. Roberts.

R. C. Dominique Hen—First and second, E. G. Roberts; third, F. L. Reinhard & Son.

S. C. Rhode Island Red Cock—First (23), T. L. Ricksecker; second (37), Roger Finkbine; third (88), E. B. Cramblitt.

S. C. Rhode Island Red Cockerel—First (20), second (34) and third (35), T. L. Ricksecker.

S. C. Rhode Island Red Hen—First (102), T. L. Ricksecker; second (91), C. A. Kenworthy; third (260), Reinhard & Son.

S. C. Rhode Island Red Pullet—First (33), T. L. Ricksecker; second (293), J. M. Brown; third (92), Mrs. A. H. Ketchum.

R. C. Rhode Island Red Cock—First (1), D. W. Rich; second (80) and third (88), Tom Oxenfield.

R. C. Rhode Island Red Cockerel—First (65), D. W. Rich; second (577), Sherman L. Kline; third (19), C. R. Rauch.

R. C. Rhode Island Red Hen—First (201) and second (230), Sherman L. Kline; third (107), D. W. Rich.

R. C. Rhode Island Red Pullet—First (67), Tom Oxenfield; second (58), D. W. Rich; third (20), C. R. Rauch.

ASIATIC.

EXHIBITORS.

Julius Goldsmith, Osceola, Iowa; Weir Hart, Bondurant, Iowa; Hanson's Poultry Farm, Dean, Iowa; R. A. Lundberg, Altoona, Iowa; R. G. McDuff, Monroe, Iowa; E. G. Roberts, Fort Atkinson, Wisconsin; R. E. West, Altoona, Iowa.

AWARDS.

JUDGE........................W. S. RUSSELL, Ottumwa, Iowa.

Light Brahma Cock—First, R. E. West; second, Hanson's Poultry Farm; third, Weir Hart.

Light Brahma Cockerel—First, second and third, Weir Hart.

Light Brahma Hen—First, Weir Hart; second, R. E. West; third, Weir Hart.

Light Brahma Pullet—First, second and third, Weir Hart.

Dark Brahma Cock—First, E. G. Roberts.

Dark Brahma Cockerel—First, E. G. Roberts.

Dark Brahma Hen—First, E. G. Roberts; second and third, Hanson's Poultry Farm.

Dark Brahma Pullet—First, E. G. Roberts.

Buff Cochin Cock—First, E. G. Roberts; second, R. E. West.

Buff Cochin Cockerel—First, Julius Goldsmith.

Buff Cochin Hen—First, E. G. Roberts; second, R. E. West.

Buff Cochin Pullet—First and second, Julius Goldsmith.

Partridge Cochin Cock—First, E. G. Roberts.

Partridge Cochin Cockerel—First, E. G. Roberts; second, R. A. Lundberg.

Partridge Cochin Hen—First, E. G. Roberts; second, R. A. Lundberg; third, R. E. West.

Partridge Cochin Pullet—First, E. G. Roberts; second, R. A. Lundberg.

White Cochin Cock—First, E. G. Roberts.

White Cochin Hen—First, E. G. Robert.

Black Cochin Cock—First, E. G. Roberts.

Black Cochin Hen—First, E. G. Roberts.

Black Langshan Cock—First and second, R. G. McDuff; third, R. E. West.

Black Langshan Cockerel—First, R. E. West; second, Weir Hart; third, R. E. West.

Black Langshan Hen—First (86), R. E. West; second, R. G. McDuff; third, R. G. McDuff.

Black Langshan Pullet—First and second, R. G. McDuff; third, R. E. West.

White Langshan Cock—First, R. E. West.

White Langshan Cockerel—First and second, Weir Hart.

White Langshan Hen—First (1), R. E. West; second (27), Weir Hart; third, R. E. West.

White Langshan Pullet—First and second, Weir Hart.

MEDITERRANEAN.

EXHIBITORS.

Brookdale Poultry Farm, Chariton, Iowa; Dr. S. L. Beaver, Harlan, Iowa; Wib. F. Clements, Agency, Iowa; A. P. Chamberlain, Des Moines, Iowa; W. O. Coon, Des Moines, Iowa; Francis Dorrell, Luther, Iowa; R. F. Erwin, Cambridge, Iowa; Mrs. G. B. Frost, Des Moines, Iowa; P. A. Fosselman, Waverly, Iowa; John Foehr, Clayton, Missouri; Mrs.

R. M. Good, Chariton, Iowa; Chas. E. Hines, Des Moines, Iowa; Hanson's Poultry Farm, Dean, Iowa; Jas. H. Jones, Des Moines, Iowa; Ellwyn Lucas, Des Moines, Iowa; Leghorn Hill Poultry Farm, Des Moines, Iowa; C. A. Mackey, Nevada, Iowa; Mrs. Howard Niswander, Kinross, Iowa; W. Patterson, Carlisle, Iowa; Walter Perkins, Ames, Iowa; Jno. A. Peterson, Pilot Mound, Iowa; E. G. Roberts, Fort Atkinson, Wisconsin; Rogers Ranch, Pleasanton, Iowa; F. L. Reinhard & Son, Ottumwa, Iowa; C. W. Reeder, Leon, Iowa; Anthony Stocker, Des Moines, Iowa; G. F. Statter, Sioux City, Iowa; O. O. Smith, Des Moines, Iowa; W. H. Topp, Westgate, Iowa; R. E. West, Altoona, Iowa; L. C. West, Dallas Center, Iowa; I. N. Woodward, Indianola, Iowa.

AWARDS.

JUDGE...............F. H. SHELLABARGER, West Liberty, Iowa.

S. C. Brown Leghorn Cock—First (19), E. G. Roberts; second (76) W. O. Coon; third (57), O. O. Smith.

S. C. Brown Leghorn Cockerel—First (1), second (3) and third (2), W. Patterson.

S. C. Brown Leghorn Hen—First (64) and second (42), O. O. Smith; third (20), W. Patterson.

S. C. Brown Leghorn Pullet—First (23) and second (14), W. Patterson; third, E. G. Roberts.

R. C. Brown Leghorn Cock—First, E. G. Roberts.

R. C. Brown Leghorn Cockerel—First, E. G. Roberts.

R. C. Brown Leghorn Hen—First, E. G. Roberts.

R. C. Brown Leghorn Pullet—First, E. G. Roberts; second (6), Mrs. G. B. Frost.

S. C. White Leghorn Cock—First, Walter Perkins; second (7), Anthony Stocker; third, E. G. Roberts.

S. C. White Leghorn Cockerel—First (9), Anthony Stocker; second, E. G. Roberts; third (122), Jno. A. Peterson.

S. C. White Leghorn Hen—First (87), Jas. H. Jones; second, Walter Perkins; third, E. G. Roberts.

S. C. White Leghorn Pullet—First (96), Leghorn Hill Poultry Farm; second, Walter Perkins; third (77), Leghorn Hill Poultry Farm.

R. C. White Leghorn Cock—First, E. G. Roberts; second (180), Rogers Ranch.

R. C. White Leghorn Cockerel—First, E. G. Roberts; second (188), Rogers Ranch; third (3), Mrs. Howard Niswander.

R. C. White Leghorn Hen—First (186), Rogers Ranch; second, E. G. Roberts.

R. C. White Leghorn Pullet—First and second, E. G. Roberts; third (19), Rogers Ranch.

S. C. Buff Leghorn Cock—First, E. G. Roberts; second, Ellwyn Lucas; third, Hanson's Poultry Farm.

S. C. Buff Leghorn Cockerel—First (3), John Foehr; second (119), Chas. E. Hines; third (5), John Foehr.

S. C. Buff Leghorn Hen—First (30), Chas. E. Hines; second and third, Ellwyn Lucas.

S. C. Buff Leghorn Pullet—First (8), Jno. Foehr; second, E. G. Roberts; third (121), Chas. E. Hines.

S. C. Black Leghorn Cock—First, E. G. Roberts.

S. C. Black Leghorn Cockerel—First, E. G. Roberts.

S. C. Black Leghorn Hen—First, E. G. Roberts.

S. C. Black Leghorn Pullet—First, E. G. Roberts.

S. C. Black Minorca Cockerel—First, E. G. Roberts.

S. C. Black Minorca Hen—First, E. G. Roberts; second (89) and third (88), R. E. West.

S. C. Black Minorca Pullet—First, E. G. Roberts; second (30), R. E. West.

R. C. Black Minorca Cock—First, E. G. Roberts.

R. C. Black Minorca Cockerel—First (25), F. L. Reinhard & Son; second (52), Francis Dorrell; third, E. G. Roberts.

R. C. Black Minorca Hen—First, E. G. Roberts.

R. C. Black Minorca Pullet—First, E. G. Roberts; second (225), F. L. Reinhard & Son; third (68), Francis Dorrell.

S. C. White Minorca Cock—First, E. G. Roberts.

S. C. White Minorca Cockerel—First, E. G. Roberts.

S. C. White Minorca Hen—First, E. G. Roberts.

S. C. White Minorca Pullet—First, E. G. Roberts.

White Faced Black Spanish Cock—First, E. G. Roberts.

White Faced Black Spanish Cockerel—First (36), R. E. West.

White Faced Black Spanish Hen—First, E. G. Roberts; second (86), Hanson's Poultry Farm; third (43), R. E. West.

Blue Andalusian Cock—First, E G Roberts; second, Wib. F. Clements; third, (140) Hanson's Poultry Farm.

Blue Andalusian Cockerel—First, (32) R. E. West, second, E. G. Roberts; third, Wib. F. Clements.

Blue Andalusian Hen—First, E. G. Roberts; second, Wib. F. Clements.

Blue Andalusian Pullet—First (28), R. E. West; second and third, Wib. F. Clements.

Mottled Ancona Cock—First, E. G. Roberts.

Mottled Ancona Cockerel—First and second, Hanson's Poultry Farm.

Mottled Ancona Hen—First, E. G. Roberts; second (3689) and third, Hanson's Poultry Farm.

Mottled Ancona Pullet—First and second, Hanson's Poultry Farm; second, E. G. Roberts.

ENGLISH.

EXHIBITORS.

Brookdale Poultry Farm, Chariton, Iowa; Dr. S. L. Beaver, Harlan, Iowa; A. P. Chamberlain, Des Moines, Iowa; R. F. Erwin, Cambridge, Iowa; P. A. Fosselmann, Waverly, Iowa; Mrs. R. M. Good, Chariton, Iowa; C. A. Mackey, Nevada, Iowa; C. W. Reeder, Leon, Iowa; E. G. Roberts, Fort Atkinson, Wisconsin; O. O. Smith, Des Moines, Iowa; G. F. Statter, Sioux City, Iowa; W. H. Topp, Westgate, Iowa; I. N. Woodward, Indianola, Iowa.

AWARDS.

JUDGE................F. H. SHELLABARGER, West Liberty, Ia.

White Dorking Cock—First, E. G. Roberts.

White Dorking Hen—First, E. G. Roberts.

Silver Gray Dorking Cock—First, E. G. Roberts.

Silver Gray Dorking Cockerel—First, E. G. Roberts.

Silver Gray Dorking Hen—First, E. G. Roberts.

Silver Gray Dorking Pullet—First, E. G. Roberts.

Colored Dorking Cock—First E. G. Roberts.

Colored Dorking Cockerel—First, E. G. Roberts.

Colored Dorking Hen—First, E. G. Roberts.

Colored Dorking Pullet—First, E. G. Roberts.

R. C. Red Cap Cock—First, E. G. Roberts.

R. C. Red Cap Hen—First, E. G. Roberts.

S. C. Buff Orpington Cock—First (6547), Dr. S. L. Beaver; second, E. G. Roberts; third, (140), G. F. Statter.

S. C. Buff Orpington Cockerel—First, E. G. Roberts; second, (20) and third, (5), W. H. Topp.

S. C. Buff Orpington Hen—First (143), C. F. Statter; second (83) and third (90), Brookdale Poultry Farm.

S. C. Buff Orpington Pullet—First (6), L. C. West; second (52), W. H. Topp; third, E. G. Roberts.

S. C. Black Orpington Cock—First (448), C. W. Reeder; second, E. G. Roberts; third (85), A. P. Chamberlin.

S. C. Black Orpington Cockerel—First (450) and second (101), C. W. Reeder; third (63), A. P. Chamberlin.

S. C. Black Orpington Hen—First (123), C. W. Reeder; second (91), O. O. Smith; third (692), A. P. Chamberlin.

S. C. Black Orpington Pullet—First (122), C. W. Reeder; second (56) and third (64), A. P. Chamberlin.

S. C. White Orpington Cock—First (50), I. N. Woodward; second (76), P. A. Fosselmann; third (401), C. W. Reeder.

S. C. White Orpington Cockerel—First (100), Mrs. R. M. Good; second (70), I. N. Woodward; third (75), C. A. Mackey.

S. C. White Orpington Hen—First (98), C. W. Reeder; second (9273), P. A. Fosselmann; third (52), I. N. Woodward.

S. C. White Orpington Pullet—First (81), I. N. Woodward; second (88), R. F. Erwin; third (72), C. A. Mackey.

POLISH.

EXHIBITORS.

E. G. Roberts, Fort Atkinson, Wisconsin; W. B. Sullivan, Chariton, Iowa.

AWARDS.

JUDGE......................W. S. RUSSELL, Ottumwa, Iowa.

White Crested Black Polish Cock—First, E. G. Roberts.

White Crested Black Polish Cockerel—First, W. B. Sullivan.

White Crested Black Polish Hen—First, E. G. Roberts; second (9), and third (4), W. B. Sullivan.

Bearded Golden Polish Cock—First, E. G. Roberts.

Bearded Golden Polish Cockerel—First, E. G. Roberts.

Bearded Golden Polish Hen—First and second, E. G. Roberts.

Bearded Golden Polish Pullet—First, E. G. Roberts.

Bearded Silver Polish Cock—First, E. G. Roberts.

Bearded Silver Polish Cockerel—First, E. G. Roberts.

Bearded Silver Polish Hen—First and second, E. G. Roberts.

Bearded Silver Polish Pullet—First and second, E. G. Roberts.

Bearded White Polish Cock—First, E. G. Roberts.

Bearded White Polish Cockerel—First, E. G. Roberts.

Bearded White Polish Hen—First and second, E. G. Roberts.

Bearded White Polish Pullet—First, E. G. Roberts.

Buff Laced Polish Cock—First and second, E. G. Roberts.

Buff Laced Polish Cockerel—First, E. G. Roberts.

Buff Laced Polish Hen—First, E. G. Roberts.

Buff Laced Polish Pullet—First, E. G. Roberts.

Non-Bearded Golden Polish Cock—First and second, E. G. Roberts.

Non-Bearded Golden Polish Cockerel—First and second, E. G. Roberts.

Non-Bearded Golden Polish Hen—First and second, E. G. Roberts.

Non-Bearded Golden Polish Pullet—First, E. G. Roberts.

Non-Bearded Silver Polish Cock—First and second, E. G. Roberts.

Non-Bearded Silver Polish Hen—First and second, E. G. Roberts.

Non-Bearded Silver Polish Pullet—First, E. G. Roberts.

Non-Bearded White Polish Cock—First, E. G. Roberts.

Non-Bearded White Polish Hen—First, E. G. Roberts.

DUTCH.

EXHIBITORS.

E. G. Roberts, Fort Atkinson, Wis.

AWARDS.

JUDGE......................W. S. RUSSELL, Ottumwa, Iowa.

Golden Spangled Hamburg Cock—First, E. G. Roberts.

Golden Spangled Hamburg Hen—First and second, E. G. Roberts.

Golden Penciled Hamburg Hen—First and second, E. G. Roberts.

Silver Penciled Hamburg Cock—First, E. G. Roberts.

Silver Penciled Hamburg Cockerel—First, E. G. Roberts.

Silver Penciled Hamburg Hen—First, E. G. Roberts.

Silver Penciled Hamburg Pullet—First, E. G. Roberts.

White Hamburg Cock—First, E. G. Roberts.

Black Hamburg Cock—First, E. G. Roberts.

Black Hamburg Cockerel—First, E. G. Roberts.

Black Hamburg Hen—First, E. G. Roberts.

Black Hamburg Pullet—First, E. G. Roberts.

FRENCH.

EXHIBITORS.

Hanson's Poultry Farm, Dean, Iowa; E. G. Roberts, Fort Atkinson, Wis.

AWARDS.

JUDGE........................W. S. RUSSELL, Ottumwa, Iowa.

Mottled Houdan Cock—First and second, E. G. Roberts; third, Hanson's Poultry Farm.

Mottled Houdan Hen—First, E. G. Roberts; second, Hanson's Poultry Farm.

Black Crevecoeur Cock—First, E. G. Roberts.

Black Crevecoeur Hen—First, E. G. Roberts.

Black La Fleche Cock—First, E. G. Roberts.

Black La Fleche Cockerel—First and second; E. G. Roberts.

Black La Fleche Hen—First, E. G. Roberts.

Black La Fleche Pullet—First and second, E. G. Roberts.

GAMES AND GAME BANTAMS.

EXHIBITORS.

R. E. Baldwin, Osceola, Iowa; W. A. Hutton, Des Moines, Iowa; E. G. Roberts, Fort Atkinson, Wis.

AWARDS.

JUDGE........................W. S. RUSSELL, Ottumwa, Iowa.

Black Breasted Red Game Hen—First, E. G. Roberts.

Brown Red Game Cock—First, R. E. Baldwin.

Brown Red Game Cockerel—First, R. E. Baldwin.

Brown Red Game Hen—First, R. E. Baldwin.

Brown Red Game Pullet—First, R. E. Baldwin.

Golden Duckwing Game Cock—First, E. G. Roberts.

Golden Duckwing Game Hen—First, E. G. Roberts.

Red Pyle Game Hen—First, E. G. Roberts.

White Game Cock—First, E. G. Roberts.

White Game Hen—First, E. G. Roberts.

Black Game Hen—First, E. G. Roberts; second, R. E. Baldwin.

Black Game Pullet—First, E. G. Roberts; second, R. E. Baldwin.

B. B. Red Game Bantam Cock—First, E. G. Roberts.

B. B. Red Game Bantam Cockerel—First and second, E. G. Roberts.

B. B. Red Game Bantam Hen—First, E. G. Roberts.

B. B. Red Game Bantam Pullet—First and second, E. G. Roberts.

Brown Red Game Bantam Cock—First, E. G. Roberts.

Brown Red Game Bantam Cockerel—First, E. G. Roberts.

Brown Red Game Bantam Hen—First, E. G. Roberts.

Brown Red Game Bantam Pullet—First, E. G. Roberts.

Golden Duckwing Game Bantam Cock—First, E. G. Roberts.

Golden Duckwing Game Bantam Cockerel—First, E. G. Roberts.

Golden Duckwing Game Bantam Hen—First, E. G. Roberts.

Golden Duckwing Game Bantam Pullet—First, E. G. Roberts.

Silver Duckwing Game Bantam Cock—First, E. G. Roberts.

Silver Duckwing Game Bantam Cockerel—First, E. G. Roberts.

Silver Duckwing Game Bantam Pullet—First, E. G. Roberts.

Birchen Game Bantam Cock—First, E. G. Roberts.

Birchen Game Bantam Cockerel—First and second, E. G. Roberts.

Birchen Game Bantam Hen—First, E. G. Roberts.

Birchen Game Bantam Pullet—First and second, E. G. Roberts.

Red Pyle Game Bantam Cock—First, W. A. Hutton; second, E. G. Roberts.

Red Pyle Game Bantam Cockerel—First, E. G. Roberts; second, W. A. Hutton.

Red Pyle Game Bantam Hen—First and second, E. G. Roberts.

Red Pyle Game Bantam Pullet—First, E. G. Roberts.

Black Game Bantam Hen—First, E. G. Roberts.

ORIENTAL GAMES AND BANTAMS.

EXHIBITORS.

Hanson's Poultry Farm, Dean, Iowa; E. G. Roberts, Fort Atkinson, Wis.; F. L. Reinhard & Son, Ottumwa, Iowa.

AWARDS.

JUDGE........................W. S. RUSSELL, Ottumwa, Iowa.

Cornish Indian Cockerel—First, F. L. Reinhard & Son.

Cornish Indian Hen—First, E. G. Roberts.

White Indian Cock—First, Hanson's Poultry Farm; second, E. G. Roberts.

White Indian Cockerel—First, E. G. Roberts.

White Indian Hen—First, Hanson's Poultry Farm; second, E. G. Roberts.

White Indian Pullet—First, E. G. Roberts.

Black Sumatra Cock—First, E. G. Roberts.

Black Sumatra Hen—First, E. G. Roberts.

ORNAMENTAL GAMES AND BANTAMS.

EXHIBITORS.

Hanson's Poultry Farm, Dean, Iowa; R. E. West, Altoona, Iowa; E. G. Roberts, Fort Atkinson, Wis.; Palisade Park Poultry Farm, Iowa Falls, Iowa.

AWARDS.

JUDGE........................W. S. RUSSELL, Ottumwa, Iowa.

Golden Seabright Cock—First, E. G. Roberts.

Golden Seabright Cockerel—First, E. G. Roberts.

Golden Seabright Hen—First, E. G. Roberts.

Golden Seabright Pullet—First, E. G. Roberts.

Silver Seabright Cock—First, E. G. Roberts.

Silver Seabright Cockerel—First, E. G. Roberts.

Silver Seabright Hen—First, E. G. Roberts; second, Hanson's Poultry Farm.

Silver Seabright Pullet—First, E. G. Roberts.

White Rose Comb Cock—First, E. G. Roberts.

White Rose Comb Cockerel—First, E. G. Roberts.

White Rose Comb Hen—First, E. G. Roberts.

Black Rose Comb Cock—First, E. G. Roberts.

Black Rose Comb Cockerel—First, E. G. Roberts.

Black Rose Comb Hen—First, E. G. Roberts.

Black Rose Comb Pullet—First, E. G. Roberts.

White Booted Cock—First, E. G. Roberts.

White Booted Hen—First, E. G. Roberts.

Light Brahma Cock—First, E. G. Roberts; second, Hanson's Poultry Farm.

Light Brahma Hen—First and second Hanson's Poultry Farm.

Dark Brahma Cock—First and second, Hanson's Poultry Farm.

Dark Brahma Hen—First and second, Hanson's Poultry Farm.

Buff Cochin Cock—First, E. G. Roberts.

Buff Cochin Cockerel—First, E. G. Roberts.

Buff Cochin Hen—First, R. E. West; second, E. G. Roberts.

Buff Cochin Pullet—First, E. G. Roberts; second, R. E. West.

White Cochin Cock—First, R. E. West.

White Cochin Cockerel—First, R. E. West.

White Cochin Hen—First, Hanson's Poultry Farm; second, R. E. West.

White Cochin Pullet—First, R. E. West.

Black Cochin Cock—First, E. G. Roberts; second, R. E. West.

Black Cochin Cockerel—First, E. G. Roberts.

Black Cochin Hen—First, R. E. West; second, E. G. Roberts.

Black Cochin Pullet—First, E. G. Roberts; second, R. E. West.

Black Tailed Japanese Cock—First, E. G. Roberts; second, Palisade Park Poultry Farm.

Black Tailed Japanese Cockerel—First, E. G. Roberts; second, Palisade Park Poultry Farm.

Black Tailed Japanese Hen—First, E. G. Roberts; second, Hanson's Poultry Farm.

Black Tailed Japanese Pullet—First, E. G. Roberts; second, Palisade Park Poultry Farm.

White Japanese Cock—First, E. G. Roberts.

White Japanese Cockerel—First, E. G. Roberts.

White Japanese Pullet—First, E. G. Roberts.

MISCELLANEOUS.

EXHIBITORS.

E. G. Roberts, Fort Atkinson, Wisconsin.

AWARDS.

JUDGE........................W. S. RUSSELL, Ottumwa, Iowa.

White Silkie Cock—First, E. G. Roberts.

White Silkie Hen—First, E. G. Roberts.

White Sultan Cock—First, E. G. Roberts.

Any Color Frizzle Cock—First, E. G. Roberts.

Any Color Frizzle Cockerel—First, E. G. Roberts.

Any Color Frizzle Hen—First, E. G. Roberts.

Any Color Frizzle Pullet—First, E. G. Roberts.

CAPONS.

EXHIBITORS.

Harry L. Berry, Des Moines, Iowa; Hanson's Poultry Farm, Dean, Iowa.

AWARDS.

JUDGE........................W. S. RUSSELL, Ottumwa, Iowa.

Any Variety Capons—First, Hanson's Poultry Farm; second, Harry L. Berry.

EXHIBITION PENS.

AWARDS.

Barred Plymouth Rock Fowls—First, E. G. Roberts.

Barred Plymouth Rock Chicks—First, R. E. Ward.

Buff Plymouth Rock Chicks—First, Peter Hove; second, Wib. F. Clements.

White Plymouth Rock Fowls—First, A. D. Severe.

White Plymouth Rock Chicks—A. D. Severe.

Silver Wyandotte Fowls—First, F. F. & V. G. Warner; second, Walter M. Perkins; third, M. A. Hauge.

Silver Wyandotte Chicks—First, F. F. & V. G. Warner; second, J. R. McDonald.

Golden Wyandotte Fowls—First, Julius Sinn; second, F. F. & V. G. Warner; third, A. L. Anderson.

Golden Wyandotte Chicks—First, Julius Sinn; second, A. L. Anderson; third, F. F. & V. G. Warner.

White Wyandotte Fowls—First, Dr. Thos. P. Bond; second, Beatrice Mansfield; third, Dr. Thos. P. Bond.

White Wyandotte Chicks—First, A. J. Smith; second, Beatrice Mansfield; third, Dr. Thos. P. Bond.

Buff Wyandotte Fowls—First, A. L. Anderson.

Buff Wyandotte Chicks—First, A. L. Anderson; second, F. F. & V. G. Warner; third, A. L. Anderson.

Columbia Wyandotte Fowls—First and second, E. & A. Walrath.

Partridge Wyandotte Fowls—First, F. F. & V. G. Warner; second, Israel Drought.

R. C. Rhode Island Red Fowls—First, D. W. Rich; second, Tom Oxenfield; third, D. W. Rich.

R. C. Rhode Island Red Chicks—First, D. W. Rich; second, C. W. Howell; third, C. R. Rauch.

S. C. Rhode Island Red Fowls—First, A. Wick; second, F. L. Reinhard & Son; third, E. B. Cramblit.

S. C. Rhode Island Red Chicks—First, J. C. Sandmier; second and third, T. L. Ricksecker.

Light Brahma Fowls—First, Weir Hart.

Light Brahma Chicks—First, Weir Hart.

Partridge Cochin Fowls—First, Miss E. M. Brinckler.

Partridge Cochin Chicks—First, Miss E. M. Brinckler; second, R. A. Lundberg.

Buff Orpington Fowl—First, Brookdale Poultry Farm; second, L. C. West; third, F. L. Reinhard & Son.

Buff Orpington Chicks—First, H. T. Farrar; second, Dr. S. L. Beaber; third, L. C. West.

Black Langshan Fowls—First, R. E. West.

Black Langshan Chicks—First, R. E. West.

S. C. White Leghorn Fowls—First, C. W. Howell; second, Jas. H. Jones.

S. C. White Leghorn Chicks—First, Leghorn Hill Poultry Farm; second Beatrice Mansfield; third, C. W. Howell.

R. C. White Leghorn Fowls—First, Rogers Ranch.

R. C. White Leghorn Chicks—First, Rogers Ranch.

S. C. Brown Leghorn Fowls—First, W. O. Coon.

S. C. Brown Leghorn Chicks—First, W. O. Coon.

Black Minorca Fowls—First, Francis Dorrell; second, F. L. Reinhard & Son.

Black Minorca Chicks—First, F. L. Reinhard & Son.

PIGEONS.

EXHIBITORS.

F. L. Reinhard & Son, Ottumwa, Iowa; Wib. F. Clements, Agency, Iowa.

AWARDS.

JUDGE........................W. S. RUSSELL, Ottumwa, Iowa.

Pair Tumbler Pigeons—First and second, F. L. Reinhard & Son.

Pair Turbet Pigeons—First and second, F. L. Reinhard & Son.

Pair Homing Pigeons—First and second, Wib. F. Clements.

Pair Swallow Pigeons—First and second, Wib. F. Clements.

TURKEYS.

EXHIBITORS.

J. H. Allen, Walnut, Iowa; Hardessen Bros., Des Moines, Iowa; R. H. Longworth, Polk City, Iowa; E. G. Roberts, Fort Atkinson, Wisconsin; J. C. Watts, Berwick, Iowa; F. F. & V. G. Warner, Bloomfield, Iowa.

AWARDS.

JUDGE...............F. H. SHELLABARGER, West Liberty, Iowa.

Bronze Turkey Cock—First, F. F. & V. G. Warner; second, Hardessen Bros.

Bronze Turkey Cockerel—First, F. F. & V. G. Warner; second, J. C. Watts; third, F. F. & V. G. Warner.

Bronze Turkey Hen—First, J. C. Watts; second, F. F. & V. G. Warner; third, J. C. Watts.

Bronze Turkey Pullet—First, F. F. & V. G. Warner.

Narragansett Turkey Cock—First, E. G. Roberts.

Narragansett Turkey Cockerel—First, E. G. Roberts.

Narragansett Turkey Hen—First, E. G. Roberts.

Narragansett Turkey Pullet—First, E. G. Roberts.

Buff Turkey Cock—First, E. G. Roberts.

Buff Turkey Cockerel—First, E. G. Roberts.

Buff Turkey Pullet—First, E. G. Roberts.

Slate Turkey Cock—First, E. G. Roberts.

White Turkey Cock—First, E. G. Roberts; second, J. H. Allen; third, R. H. Longworth.

White Turkey Cockerel—First, E. G. Roberts; second, R. H. Longworth.

White Turkey Hen—First, J. H. Allen; second, E. G. Roberts; third, J. H. Allen.

White Turkey Pullet—First, E. G. Roberts; second, R. H. Longworth.

Black Turkey Cock—First, E. G. Roberts.

Black Turkey Cockerel—First, E. G. Roberts.

Black Turkey Hen—First, E. G. Roberts.

Black Turkey Pullet—First, E. G. Roberts.

DUCKS.

EXHIBITORS.

D. M. Dickey, Des Moines, Iowa; Hanson's Poultry Farm, Dean, Iowa; F. L. Reinhard & Son, Ottumwa, Iowa; E. G. Roberts, Fort Atkinson, Wisconsin; F. F. & V. G. Warner, Bloomfield, Iowa.

AWARDS.

JUDGE..............F. H. SHELLABARGER, West Liberty, Iowa.

White Pekin Drake, Old—First, F. F. & V. G. Warner.

White Pekin Drake, Young—First, E. G. Roberts; second, F. F. & V. G. Warner; third, F. F. & V. G. Warner.

White Pekin Duck, Old—First and second, F. F. & V. G. Warner.

White Pekin Duck, Young—First, E. G. Roberts; second, F. F. & V. G. Warner.

White Aylesbury Drake, Old—First, E. G. Roberts.

White Aylesbury Drake, Old—First, E. G. Roberts.

Colored Rouen Drake, Old—First, E. G. Roberts; second, Hanson's Poultry Farm.

Colored Rouen Drake, Young—First, Hanson's Poultry Farm; second, E. G. Roberts.

Colored Rouen Duck, Old—First, E. G. Roberts.

Colored Rouen Duck, Young—First, E. G. Roberts; second, Hanson's Poultry Farm.

Black Cayuga Drake, Old—First, E. G. Roberts.

Black Cayuga Drake, Young—First, E. G. Roberts.

Black Cayuga Duck, Old—First, E. G. Roberts.

Black Cayuga Duck, Young—First, E. G. Roberts.

Gray Call Drake, Old—First, E. G. Roberts; second, D. M. Dickey.

Gray Call Drake, Young—First, E. G. Roberts.

Gray Call Duck, Old—First, E. G. Roberts; second, D. M. Dickey.

Gray Call Duck, Young—First, E. G. Roberts.

Black East India Drake, Old—First, E. G. Roberts.

Black East India Duck, Old—First, E. G. Roberts.

Colored Muscovy Drake, Old—First, Hanson's Poultry Farm; second, E. G. Roberts.

Colored Muscovy Drake, Young—First, E. G. Roberts.

Colored Muscovy Duck, Old—First, E. G. Roberts.

Colored Muscovy Duck, Young—First, E. G. Roberts; second, Hanson's Poultry Farm.

White Muscovy Drake, Old—First, E. G. Roberts.

White Muscovy Drake, Young—First, E. G. Roberts.

White Muscovy Duck, Old—First, E. G. Roberts; second, Hanson's Poultry Farm.

White Muscovy Duck, Young—First, E. G. Roberts; second, Hanson's Poultry Farm.

Indian Runner Drake, Old—First, E. G. Roberts; second and third, F. L. Reinhard & Son.

Indian Runner Drake, Young—First, second and third, F. L. Reinhard & Son.

Indian Runner Duck, Old—First (29), second and third, F. L. Reinhard & Son.

Indian Runner Duck, Young—First and second, F. L. Reinhard & Son; third, Hanson's Poultry Farm.

Blue Swedish Drake, Old—First, E. G. Roberts.

Blue Swedish Duck, Old—First, E. G. Roberts.

GEESE.

EXHIBITORS.

D. M. Dickey, Des Moines, Iowa; Hanson's Poultry Farm, Dean, Iowa; E. G. Roberts, Fort Atkinson, Wisconsin; R. E. West, Altoona, Iowa; W. W. Seeley, Stuart, Iowa; L. A. Taylor, Des Moines, Iowa; Weir Hart, Bondurant, Iowa.

AWARDS.

JUDGE..............F. H. SHELLABARGER, West Liberty, Iowa.

Gray Toulouse Gander, Old—First, E. G. Roberts; second, L. A. Taylor.

Gray Toulouse Gander, Young—First, E. G. Roberts; second, R. E. West; third, L. A. Taylor.

Gray Toulouse Goose, Old—First, E. G. Roberts; second, L. A. Taylor.

Gray Toulouse Goose, Young—First, E. G. Roberts; second, R. E. West; third, L. A. Taylor.

White Embden Gander, Old—First, E. G. Roberts; second, F. L. Reinhard & Son; third, Weir Hart.

White Embden Gander, Young—First, E. G. Roberts; second, F. L. Reinhard & Son.

White Embden Goose, Old—First, E. G. Roberts; second, F. L. Reinhard & Son; third, Weir Hart.

White Embden Goose, Young—First, E. G. Roberts; second, F. L. Reinhard & Son.

Gray African Gander, Old—First, E. G. Roberts.

Gray African Goose, Old—First, E. G. Roberts.

Brown Chinese Gander, Old—First, E. G. Roberts.

Brown Chinese Gander, Young—First, E. G. Roberts.

Brown Chinese Goose, Old—First, E. G. Roberts.

Brown Chinese Goose, Young—First, E. G. Roberts.

White Chinese Gander, Old—First, E. G. Roberts; second and third, W. W. Seeley.

White Chinese Gander, Young—First, Hanson's Poultry Farm.

White Chinese Goose, Old—First, E. G. Roberts; second and third, W. W. Seeley.

White Chinese Goose, Young—First, Hanson's Poultry Farm.

Gray, Wild or Canadian Gander, Old—First, D. M. Dickey.

Gray, Wild or Canadian Gander, Young—First, D. M. Dickey.

Gray, Wild or Canadian Goose, Old—First, D. M. Dickey.

Gray, Wild or Canadian Goose, Young—First, D. M. Dickey.

EGG LAYING CONTEST.

EXHIBITORS.

Wib. F. Clements, Agency, Iowa; R. W. Fasken, Colfax, Iowa; P. A. Fosselman, Waverly, Iowa; Leghorn Hill Poultry Farm, Des Moines, Iowa; Walter Perkins, Ames, Iowa; E. T. Roberts, Des Moines, Iowa; J. C. Sandmier, Waukee, Iowa; L. D. Weinhart, Ankeny, Iowa.

AWARDS.

JUDGE........................E. L. BECK, Des Moines, Iowa.

Egg Laying Contest—First, E. T. Roberts; second, R. W. Fasken; third, P. A. Fosselman; fourth, J. C. Sandmier.

REPORT OF BOYS' JUDGING CONTEST, IOWA STATE FAIR AND EXPOSITION, 1911.

Name	Angus Steers		Short-Horn Cows		Belgian Stallions		Percheron Mares		Duroc-Jersey Sows		Chester-White Boars		Total on Stock	Reed Yellow Dent		Boone County White		Total on Corn	Ear	Grand total	Rank
	Place	Reason	Place	Reason	Place	Reason	Place	Reason	Place	Reason	Place	Reason		Place	Reason	Place	Reason				
Frank H. Bliss, Diagonal	56	37	60	32	60	36	40	32	48	32	33	32	498	40	37	40	38	170	15	668	1
Fred Bliss, Corning	52	26	48	34	40	33	50	33	48	33	54	32	483	54	38	45	34	176	5	659	2
Marshall Hunter, Red Oak	58	24	50	37	50	33	40	30	41	31	56	29	499	40	32	49	34	155	-----	654	3
G. M. Hilton, Malvern	52	27	60	30	60	21	60	30	48	24	64	26	502	32	32	48	30	142	-----	644	4 & 5
Jonah Hilfman, West Liberty	60	38	58	32	35	33	50	35	43	35	40	32	491	53	28	42	30	153	-----	644	4 & 5
Ray Rail, Birmingham	56	30	48	30	60	34	50	35	41	30	40	32	486	48	34	47	25	154	----	640	6 & 7
Will Breckenridge, Dinsdale	58	35	38	32	35	36	50	34	51	32	40	28	469	46	35	55	35	171	-----	640	6 & 7
Frank Beresford, Vinton	52	31	60	25	50	28	40	30	48	24	40	29	457	50	34	52	36	172	-----	629	8
Alfred Stevenson, Lohrville	58	32	48	30	45	20	50	30	51	34	40	36	474	35	33	41	37	156	-----	620	9 & 10
Lloyd W. Cassady, Whiting	52	22	58	28	60	30	60	25	43	25	54	25	482	48	33	31	26	138	-----	620	9 & 10
A. W. Warden, Melbourne	60	25	60	25	54	25	40	22	43	26	56	29	465	49	36	40	29	154	-----	619	11
Roy Westley, Ames	58	26	35	30	50	30	60	30	43	28	25	26	441	56	38	51	30	175	-----	616	12
G. C. Johnson, LeGrand	60	38	45	29	20	30	40	30	51	36	33	33	445	42	35	46	37	170	10	615	13
M. McAllister, Indianola	58	28	58	29	45	32	50	32	45	30	33	28	468	55	29	34	26	144	-----	612	14
Clair Taylor, Ames	58	32	45	33	35	32	30	26	48	33	40	33	444	54	33	50	30	167	-----	611	15 & 16
Frank Field, Shenandoah	60	32	58	36	35	26	50	23	56	30	35	28	460	32	30	50	30	142	-----	611	15 & 16
Geo. J. Bass, Red Oak	52	35	58	35	40	28	50	35	31	31	56	28	479	30	30	43	22	125	-----	604	17
Murdo McRae, Des Moines	60	22	52	25	54	28	40	25	51	27	33	29	446	45	34	52	26	157	-----	603	18
David B. Hill, New Sharon	25	15	30	20	40	27	60	20	48	28	42	27	462	37	38	30	32	137	-----	599	19-20-21
Ross Dowell, Bedford	52	34	30	28	40	31	40	28	43	29	60	26	441	37	37	50	34	158	-----	599	19-20-21
Raymond Sayer, Indianola	58	29	30	25	50	30	40	28	46	29	40	27	432	52	37	46	32	167	-----	599	19-20-21
Carl Bingley, Summerset	60	30	35	24	45	33	20	30	48	28	56	28	437	47	38	46	30	161	-----	598	22
Graydon Taylor, Madrid	60	30	58	30	39	32	50	34	43	26	33	28	463	50	30	25	27	132	-----	595	23
Henry Heidman, Granger	58	28	48	20	60	25	40	25	43	26	33	26	432	50	36	38	38	162	-----	594	24
L. F. Smith, Altoona	52	21	50	25	54	22	30	26	43	29	42	22	416	48	39	53	29	169	-----	585	25
Ralph Loueks, Spring Hill	58	34	35	30	35	29	50	35	46	28	53	20	453	30	30	41	29	130	-----	583	26
Ernest Boyce, Winterset	52	33	25	24	39	22	40	30	45	30	41	32	413	59	35	40	35	169	-----	582	27
D. C. Cummings, Indianola	58	36	38	33	30	30	30	36	43	32	40	30	436	38	31	45	31	145	-----	581	28
Emerson Cummings, Indianola	58	36	35	25	40	32	15	20	55	30	56	30	432	35	39	43	28	145	-----	577	29
Harral A. Longworth, Polk City	52	24	48	28	25	22	50	32	43	29	40	30	423	46	32	45	30	157	-----	576	30 & 31
Arthur Marshall, Battle Creek	60	35	25	28	25	28	40	30	56	30	40	26	423	44	30	52	27	153	-----	576	30 & 31
Joe Preston, Indianola	58	27	35	20	60	25	40	22	60	15	33	28	423	48	31	38	29	146	-----	569	32
Floyd Michelsen, Battle Creek	58	21	33	25	60	27	40	23	46	25	33	22	413	48	32	47	28	155	-----	568	33

L. C. Shivvers, Knoxville	52	27	35	23	49	27	40	26	43	24	40	24	410	35	33	51	38	157	-----	567	34
Roy Jacobs, Mediapolis	35	27	58	22	54	23	20	26	41	15	33	22	376	54	38	54	34	190	-----	566	35
Robert Shivvers, Knoxville	58	28	35	22	35	28	50	28	46	28	40	28	426	42	32	38	27	139	-----	565	36
Malcolm McPherson, Indianola	58	20	50	24	40	21	40	15	50	22	40	24	404	54	34	46	26	160	-----	564	37
Wallace Longworth, Polk City	52	33	45	29	20	30	30	32	41	31	40	28	411	41	36	48	26	151	-----	562	38
Walter McPherson, Indianola	58	22	50	18	60	20	30	15	50	18	56	18	415	46	30	49	20	145	-----	560	39 & 40
Albert Jensen, Corning	60	31	35	22	50	30	20	25	45	31	30	30	409	40	32	51	28	151	-----	560	39 & 40
Kenneth Andrew, Spring Hill	58	30	48	20	25	26	40	25	36	29	40	26	403	42	36	50	28	156	-----	559	41
Gerald Greenfield, Indianola	30	35	30	33	45	30	50	30	31	31	40	28	413	38	33	35	35	141	-----	557	42
Cecil Bickle, Carlisle	58	30	52	27	49	32	20	26	36	25	40	24	419	30	31	49	25	135	-----	554	43
Floyd McIntire, Carlisle	58	22	35	25	50	32	30	25	46	18	33	26	400	40	32	45	30	147	-----	547	44
August Johnson, Polk City	58	23	50	28	39	20	20	15	48	20	56	18	395	36	28	51	28	143	-----	538	45
Chester Grigsby, Madrid	60	25	48	26	39	28	30	32	58	23	40	18	427	30	29	36	15	110	-----	537	46
Claire Sheriff, Indianola	38	29	48	23	40	30	15	20	41	31	40	28	383	35	37	49	30	151	-----	534	47
Roland Wilmarth, Corning	58	23	48	29	20	20	30	26	41	18	40	24	377	47	34	41	29	151	-----	528	48-49
Alonzo Jordan, Swan	58	26	50	22	30	21	50	24	31	20	59	15	406	30	34	32	26	122	-----	528	48-49
Carl Hargis, Carlisle	52	25	32	22	35	22	40	28	41	31	40	28	396	32	28	41	25	126	-----	522	50
Wayne Pickard, Indianola	58	28	35	30	35	29	15	20	43	29	20	28	370	43	34	44	25	146	-----	516	51
Donald A. Freed, Kelley	52	28	48	25	39	20	30	25	48	26	25	20	386	40	32	30	26	128	-----	514	52
Harry Schooley, West Liberty	60	24	45	20	30	22	20	20	36	22	56	28	383	40	14	38	30	122	-----	505	53
Glen Drennan, Mt. Etna	52	27	48	20	40	25	15	20	48	20	33	24	372	40	33	36	22	131	-----	503	54
Paul Hargis, Carlisle	40	28	32	24	20	20	15	25	48	22	56	22	352	35	30	48	24	118	-----	490	55
R. W. Shivers, Altoona	58	32	30	26	39	32	50	30	48	26	54	27	452	-----	-----	-----	-----	-----	-----	452	56
Lloyd Hudson, Knoxville	58	20	48	20	40	-----	30	15	43	25	40	32	371	-----	-----	-----	-----	-----	-----	371	57
Chas. W. Preston, Avon	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	53	36	38	25	152	-----	152	58
Harold Peasley, Indianola	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	59
Wallace McKee, Indianola	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	60

SCORING IN GIRLS' COOKING CONTEST, IOWA STATE FAIR, 1911, FOR IOWA STATE COLLEGE SCHOLARSHIP.

Rank	Name	Address	Steak and Biscuits			Total
			Finished product 40	Method 20	Reasons 40	
1	Florence Draper	Des Moines	36	18	36	90
2	Lillian C. Taff	Panora	30	12	35	77
3	Annie L. Heidman	Granger	28	12	25	65
4	Nina Hester	Dallas Center	25	10	25	60

PART XII.

REPORT OF AGRICULTURAL CONDITIONS

BY

COUNTY AND DISTRICT AGRICULTURAL SOCIETIES IN IOWA

1911

ADAIR.

W. W. WEST, GREENFIELD, SEPTEMBER 27, 1911.

General Condition of Crops and Season—Dry; crops are of good quality but the yield was below the average.

Corn—Quality good; yield only two-thirds of a crop.

Oats—Quality good; average crop.

Wheat—Good, especially winter wheat.

Rye—Not much raised.

Barley—None to speak of.

Hay—None.

Buckwheat—None.

Millet—Good, but not much grown.

Sorgum—Good.

Clover—Good crop.

Prairie Hay—None.

Potatoes—Very light yield.

Vegetables—Average.

Apples—Best crop in years.

Other Fruits—Average.

Cattle—Light average on account of short pasturage.

Horses—Up to standard.

Swine—Up to the average.

Sheep—Up to the average.

Poultry—Good.

Bees—Not quite so many as usual.

Drainage—Above the average.

Other Industries—Good.

Lands—Increasing some.

Report of Fair—Held at Greenfield, September 12, 13, and 14, inclusive.

ADAMS.

GEO. E. BLISS, CORNING, OCTOBER, 1911.

Corn—Will yield about one-half a crop; that on new land or sod will make a little more and that on stalk ground a little less. Good quality.

Oats—Yielded 21 bushels; quality excellent.

Wheat—Averaged 26 bushels for winter and 9½ for spring. A large acreage of winter wheat is being drilled this fall.

Rye—Very little rye raised. Twenty-two bushels was harvested per acre.

Barley—Cut short by the drouth, but yielded on the average of 23 bushels per acre and the quality was excellent.

Flax—None raised in this county.

Buckwheat—Only three fields in the county, but the yield was 13½ bushels per acre.

Millet—Very little sown—cut half a ton per acre.

Sorgum—Extra good; promises big returns in molasses.

Timothy—Fine quality; yielded nearly one ton per acre.

Clover—Yielded well; excellent quality; being baled and shipped out.

Prairie Hay—Fine this year. Acreage small.

Potatoes—Nearly a failure; tubers about as large as walnuts.

Vegetables—Small yield but excellent quality.

Apples—Largest crop in ten years; beautifully colored.

Other Fruits—Strawberries, raspberries and blackberries almost a total failure.

Cattle—Small number but in good, thrifty condition.

Horses—Farms are well stocked and they are in fine condition.

Swine—The usual number; no disease to speak of now, although some died last spring.

Sheep—More than the usual number; all are thrifty and fat.

Poultry—Adams county excels in fine poultry. More at the county fair this year than ever before.

Bees—Honey in abundance this year.

Drainage—Great deal of tile in this county.

Other Industries—Creameries are flourishing. Seventy-five per cent of the farmers sell cream.

Lands—Changing hands at from $75.00 to $150.00 per acre.

Report of Fair—Held at Corning, September 11, 12, 13, 14, inclusive.

ALLAMAKEE.

J. E. O'BRIEN, WAUKON, OCTORER 10, 1911.

General Condition of Crops and Season—Season opened favorably, all crops grew rapidly during April and May and the first days of June. After that, until August 1st, it was hot and dry. After the first of August we had abundant and excessive rainfall, damaging stack grain to some extent. No killing frost at this date.

Corn—The finest all-around crop ever produced in this country; is now well matured, stands up well; yield will be above the average and the quality excellent.

Oats—Matured too rapidly on account of the hot winds and dry weather. Grain very small, will weigh from 20 to 30 pounds per bushel; average yield 30 to 35 bushels per acre.

Wheat—Good average crop, about 20 bushels per acre; quality good.

Rye—Acreage very limited in this county. A good average crop of excellent quality; will average about 22 bushels per acre.

Barley—Acreage large; matured too rapidly on account of hot, dry weather. Grain smaller than usual; color good; will average from 25 to 30 bushels per acre. Crop very satisfactory to farmers on account of the high price.

Flax—Not many acres in the county. That which was sown on good soil and was well cultivated made an average crop; about 10 or 12 bushels per acre.

Buckwheat—Acreage limited. Grain well filled; quality good; will probably be injured by the excessive rainfall. Will average about 17 bushels per acre.

Millet—Very few acres; what there is is good. Crop grown only for feed.

Sorghum—Crop a little below the average on account of drouth; grown here exclusively for molasses. Crop has all been saved and

Timothy—Not over half a crop; poor conditions, caused by the 1910
crushed and is considered a profitable crop by producers.
and 1911 drouth. In some localities the crop was entirely destroyed by dry weather. Large per cent cut and threshed for seed; yield from 2 to 4 bushels per acre.

Clover—Old stand destroyed by the 1910 drouth; nearly all of the 1911 seeding killed by the hot, dry weather in June and July; that sown latest may make a stand.

Prairie Hay—Very few acres in the county; crop very light but of good quality.

Other Grains and Grasses—Mississippi River slough and island hay very good. On account of low water the past season a large amount was cut and cured.

Potatoes—Most of the early varieties blighted by the heat and drouth of June and July. All late kinds very good. Yield will be about the average for this county.

Vegetables—Generally good; except early cabbage which was injured by bugs, worms and other vermin; also took second growth after rains in July and August.

Apples—Largest crop ever gathered in this county. Early varieties practically wasted, no market here for them.

Other Fruits—All kinds of grapes and plums; plenty of raspberries, but blackberries, strawberries, and cherries were but about one-half a crop; quality was good.

Cattle—Conditions generally very good; no epidemic disease; only an exceptional case of tuberculosis. Good milch cows in good demand at about $50.00 per head, or higher. The demand for butchering and feeding stock exceeds the supply; some are being shipped from Dakota.

Horses—Generally healthy and in good condition; good demand for all kinds, especially farm and draft horses. A great many shipped from the county to Chicago, and other eastern and northern points.

Swine—General condition good; no cholera or other epidemic reported for several years. Farms are well stocked; many finely bred herds. Demand and prices good for all breeds.

Sheep—Sheep breeding making slow but sure progress; many finely bred flocks in the county. The demand exceeds the supply for every purpose. Mutton very scarce at any price. The 1911 clip was very satisfactory and the general conditions very good.

Poultry—All varieties quite extensively raised on the farms, especially chickens and turkeys are increasing rapidly; considerable attention paid to breeding. Demand and prices good.

Bees—Swarms generally healthy. Only about half the usual amount of honey produced, owing to the lack of both red and white clover.

Drainage—The county has no artificial drainage to speak of and needs none. Has good ample natural drainage through its system of natural streams which flow into the Mississippi on the eastern border.

Other Industries—An inexhaustible supply of iron ore is located about three miles northeast of Waukon in the center of the county and is now being developed and operated. There is also a small but complete wood-working factory located at New Albin, which turns out a very superior quality of work, including interior finish, bank fixtures, etc. Also have several button factories.

Lands—Soil very productive, producing all kinds of grain, corn and vegetables raised in the temperate zones. Is especially well adapted for the growing of red clover and blue grass. Black top soil with deep yellow clay subsoil, probably the best soil in the United States for retaining moisture. This county has never had a crop failure and produced good average crops in 1910 and 1911 with practically no rain during the months of June and July. Price varies according to location and whether the land is rough or smooth. Good prairie land will sell for as high as $125.00 per acre in the western part of the county and in the eastern part good stock farms may be had for from $35.00 to $50.00 per acre.

Report of Fair—The fair was held at Waukon on September 5th to 8th, inclusive, and on account of excessive rains was held over one day. Considering the unfavorable weather we had a very successful fair; all departments were well represented by exhibits of excellent quality. $2,000 was expended on improvements this year and the receipts from all sources were about $3,000.

AUDUBON.

L. C. CURTIS, AUDUBON, OCTOBER 16, 1911.

General Condition of Crops and Season—Crops not very good on account of dry weather during the growing season.

Corn—About one-half a crop.

Oats—Were very uneven but the quality was good.

Wheat—The best wheat we have had for many years, especially winter wheat.

Barley—Was good and was harvested and threshed without getting any rain.

Sorghum—Very little raised.

Timothy—Very good crop in this county.

Clover—Lots of clover raised every year.

Prairie Hay—Very little in the county.

Potatoes—Crop is very short this year on account of drouth.

Vegetables—Very short crop.

Apples—One of the largest crops that we ever had in the county.

Other Fruits—Fair crop of all kinds except strawberries, which were short.

Cattle—A good many are being raised and they are of a much better grade than a few years ago.

Horses—Quite a horse county. Horses are shipped from here to Chicago, St. Louis and Kansas City by the local buyers. Carload after carload goes out of here every year.

Swine—There are a great many large hog breeders in this county. There has been very little disease this year.

Sheep—A great many are raised in this county at present.

Poultry—Quite an industry here; great many shipped out each year.

Bees—Very few.

Drainage—This county has good drainage.

Other Industries—Very few other industries. We have a sweet corn canning factory, which does a good business.

Lands—Steadily going higher in price and the farms are being mproved each year.

Report of Fair—Held at Audubon. The fair this year was a good one. Paid out in good shape and had a little left. Our dates were September 19th to 22d, inclusive.

BENTON.

SOL WHITE, VINTON, OCTOBER, 1911.

General Condition of Crops and Season—Good.

Corn—Average 60 bushels per acre.

Oats—Average 30 bushels per acre.

Wheat—Average 25 bushels or more per acre.

Rye—20 bushels per acre.

Barley—30 bushels per acre.

Flax—None.

Sorghum—Not much planted.

Timothy—Fair to medium.

Clover—Poor.

Potatoes—Early ones poor; late ones good.

Vegetables—Good.

Apples—Big crop.

Other Fruits—Big crop.

Cattle—Good.

Horses—Good.

Swine—Good and healthy.

Sheep—Good many small flocks.

Poultry—Good and healthy.

Drainage—Good.

Lands—Prices high. $150.00 to $200.00 per acre.

Report of Fair—Held at Vinton, September 5th to 9th, inclusive. Bad weather.

BLACK HAWK.

H. B. LIZER, LA PORTE CITY, OCTOBER 31, 1911.

General Condition of Crops and Season—Rather dry in the early part of the season, but enough rain fell to give the crops a fair growth; corn did especially well.

Corn—Good crop, possibly up to, or a little better, than a ten-year average.

Oats—Little below the average yield in some localities, but the quality was good.

Wheat—Good crop and more than the average acreage of both spring and winter varieties.

Rye—Not a large acreage but the yield and quality were excellent.

Barley—Small acreage but good quality.

Flax—Very little raised in this country.

Buckwheat—Fair crop but not much grown.

Millet—Very little grown.

Sorghum—Good, but not much grown.

Timothy—Crop below the average; considerable cut for seed.

Clover—Much of it winter-killed, but where the crop stood the winter the yield was good.

Prairie Hay—Short crop.

Potatoes—Early ones made very poor yields; some varieties of early planting a failure. Fall rains made the late potatoes a fair crop.

Vegetables—Good.

Apples—Best crop in years; could not dispose of fall apples. Many good winter varieties.

Other Fruits—Plums in some localities; abundant crop of cherries.

Report of Fair—Held at La Porte City, October 3d to 6th, inclusive, and was financially a failure on account of extremely bad weather.

BREMER.

D. A. LONG, WAVERLY, IOWA, OCTOBER 28, 1911.

General Condition of Crops and Season—All good except meadows, pastures and potatoes.

Corn—120 per cent yield.

Oats—100 per cent yield.

Wheat—Little grown, but what there was, was good.

Rye—100 per cent.

Barley—125 per cent.

Sorghum—Good yield but very small acreage.

Timothy—50 per cent.

Clover—50 per cent.

Prairie Hay—50 per cent.

Potatoes—40 per cent.

Vegetables—90 per cent.

Apples—140 per cent.

Other Fruits—150 per cent of plums.

Cattle—Normal.

Horses—Normal.

Swine—Normal and free from disease.

Sheep—Few kept; quality good.

Poultry—Normal; some sickness, but generally healthful and doing well.

Drainage—Not much done this year. The drouth the past two years has put a check on draining.

Lands—In good condition; selling for $75.00 to $200.00.

Report of Fair—Held at Waverly, September 25th to 29, 1911. Weather good and both the exhibits and attendance taxed the facilities of the association to the utmost. Total paid attendance, including evenings, 33,354. The financial outcome was very satisfactory; the improvements for 1911, aggregating $4,639.17, being substantially paid for out of the profits.

BOONE.

W. C. TRELOAR, OGDEN, SEPTEMBER 26, 1911.

General Condition of Crops and Season—Crops not up to the average on account of no rain at the proper time. While some parts of the county have good crops, other parts have only about a half a crop.

Corn—General quality of the corn is good and will average two-thirds of a crop.

Oats—Will average from twenty to forty bushels per acre; quality good.

Wheat—Not much grown but the quality is very good.

Rye—None.

Barley—None.

Flax—None.

Buckwheat—None.

Millet—Good but not much raised.

Sorghum—Good.

Timothy—Very light crop on account of dry weather.

Clover—Some very good fields of clover; some very light.

Prairie Hay—None.

Other Grains and Grasses—None.

Potatoes—Very light crop.

Vegetables—Good.

Apples—Good.

Other Fruits—Very good.

Cattle—A large number are fatted; not many raised.

Horses—Good grade of horses raised; a large number shipped out every year.

Swine—One of the principal industries. Many prominent breeders reside in this county.

Sheep—Not many raised.

Poultry—A big industry; eggs are shipped out by car loads.

Bees—Not many in the county.

Drainage—Mile after mile of tile put in each year.

Other Industries—Have been at a standstill for the last year on account of the strike at the mines.

Lands—Advancing in price each year.

Report of Fair—Held at Ogden, September 13th to 15th, inclusive. Very good fair. Had no horse racing, but plenty of good free attractions and they gave good satisfaction.

BOONE.

JOHN S. CROOKS, BOONE, OCTOBER 20, 1911.

General Condition of Crops and Season—Crops fair; Season dry and warm.

Corn—Fair crop; some sections yielded a good crop, others poor.

Oats—Fair yield, about 40 to 50 bushels per acre, quality good.

Wheat—Good crop; not much raised.

Rye—None raised.

Barley—None raised.

Flax—None raised.

Buckwheat—Small amount raised; fair crop.

Millet—Good crop.

Sorghum—Fair crop.

Timothy—About one-half a crop.

Clover—Poor; about one-half a crop.

Prairie Hay—Poor; about one-half a crop.

Potatoes—Very poor crop.

Vegetables—Very good crop; especially late vegetables.

Apples—Big crop; apples not very large.

Other Fruits—Fair crop.

Cattle—As to breeding and feeding conditions are about normal.

Horses—Large number of fine horses brought into the county.

Swine—In healthy condition; average number.

Sheep—Good condition; small number.

Poultry—Large numbers of fine poultry raised.

Bees—Not many in county.

Drainage—Large amount of tile being put in; some very large drains.

Other Industries—A number of new coal mines opened in this county.

Lands—Increasing in value; a number of farms changing hands but not as many as last year.

Report of Fair—Held at Boone, September 19th to 21st, inclusive. A very fair attendance considering the wet weather. The finest exhibit of stock and poultry we have ever had.

BUCHANAN.

A. G. RIGBY, INDEPENDENCE, OCTOBER 30, 1911.

General Condition of Crops and Season—Excellent. Lack of moisture in the early part of the season cut down the hay crop but later rains brought out the grass for fall feed in fine shape.

Corn—Is not only above the average in yield but is at least from two to four weeks earlier than last year in point of maturity.

Oats—Fair yield and quality good where harvested and protected from fall rains. Crop was lighter this year than last, both as to quality and quantity.

Wheat—Acreage much larger than last year and quality good. In many cases the yield is even beyond 25 bushels per acre.

Rye—Good average crop in both yield and quality. All small grain that was left in the shock was damaged to some extent by the fall rains.

Barley—Good.

Flax—None raised, so far as I know.

Buckwheat—Acreage small; yield and quality good.

Millet—Good crop but not a large acreage.

Sorghum—Not an important crop in this county.

Timothy—Light yield on account of dry season, but quality first class.

Clover—Good quality but only a fair yield on account of dry season.

Prairie Hay—Not much in the county but a fair crop where raised.

Other Grains and Grasses—No other grasses except pasture, which was short on account of drouth. Fall rains, however, have made excellent pasturage.

Potatoes—Early potatoes practically a failure on account of the lack of moisture. Late potatoes are fair.

Vegetables—Short crop on account of dry season but where properly tended the quality and yield was good.

Apples—Largest crop in years—far above the average in quality and quantity.

Other Fruits—Quality fine; all kinds abundant.

Cattle—Doing well; free from disease.

Horses—In a healthy condition and more attention is being paid to breeding, particularly heavy horses. No epidemics.

Swine—Generally thrifty and free from disease.

Sheep—Thrifty and doing well where raised. Not generally raised throughout the county.

Poultry—Large number and free from disease.

Bees—Not many but they have made an abundance of late honey.

Drainage—Considerable tiling being done this season.

Other Industries—Practically no other industries outside of agricultural and mercantile activity. Conditions are good and business of all kinds prosperous.

Lands—Valued at from $75.00 to $200.00 per acre, according to location and improvements.

Report of Fair—Held at Independence, August 22, 23, 24 and 25. A very successful and satisfactory fair, both from the viewpoint of the management and the public.

BUENA VISTA.

C. H. WEGERSLEV, ALTA, OCTOBER 10, 1911.

General Condition of Crops and Season—The forepart of the summer of 1911 was dry and hot. The spring was early and farm work of all kinds was expedited by the seasonable weather. During the months of May and June the temperature was unseasonable, and no precipitation fell, put during the latter part of the crop season the conditions improved and the fall proved ideal for crop maturity.

Corn—Corn proved an excellent yield. In spite of early conditions and lack of moisture, the fields stood the excessive heat and turned out well.

Oats—The yield of early oats was not good but late oats proved to be of fine quality and an excellent yield. The kernels were heavy and plump, weighing in excess of machine measure.

Wheat—Little wheat raised in the county, but of excellent quality where raised.

Rye—No rye raised in the county to speak of but what little there was, was of good quality.

Barley—Same as rye.

Flax—Some flax raised on old pasture ground where broken up. Of good yield and quality.

Buckwheat—No buckwheat raised.

Millet—The late planted millet proved an excellent fodder crop and a very heavy yield.

Sorghum—Little raised.

Timothy—Owing to the dry weather the timothy crop was light but of good quality.

Clover—For the same reason, a light crop. The fall rains proved beneficial to clover culture.

Prairie Hay—None in the county.

Other Grains and Grasses—Hay crop generally light on account of dry weather.

Potatoes—Early planted potatoes light crop, but late fields yielded well and the quality was excellent.

Vegetables—Fine; the early spring was favorable to early planting.

Apples—The largest crop in many years was harvested this season. Thousands of bushels were wasted, as there was no demand for same.

Other Fruits—All fruits, including berries, were of excellent yield and quality.

Cattle—Cattle were thin during the early summer because of short pasturage, but late rains brought this out and cattle are in fine condition.

Horses—High in price and scarce in number.

Swine—The dry season and fine spring favored farrowing and swine conditions are ideal. The largest showing of hogs at the county fair ever seen.

Poultry—Conditions favcrable and much poultry raised.

Drainage—The dry year made drainage unnecessary, but low fields were drained to an extent because of favorable conditions.

Other Industries—Business good. Building in the county extensive and much improvement in farm conditions.

Lands—Not much land changed hands this year, but the prices were maintained and in some instances raised in price from $5.00 to $15.00 per acre.

Report of Fair—The Buena Vista County Fair was held at Alta, August 15th to 18th, inclusive, and while the exhibits and attractions proved good, the attendance fell off, owing to causes over which the management had no control. The financial outcome of the fair was not encouraging.

BUTLER.

W. C. SHEPARD, ALLISON, IOWA, OCTOBER 10, 1911.

General Condition of Crops and Season—Mostly good; some crops were hurt by the dry weather during the summer.

Corn—Generally an average crop. That on dry land was hurt some by the drouth, but all ripened in good condition.

Oats—About an average crop. That on sandy land hurt by drouth. Grasshoppers took a great deal in the eastern portion of the county. Quality of grain and straw good.

Wheat—Generally a good crop; above the average. Not much raised in the county, but the acreage is increasing year by year.

Rye—Not much rye raised; about the average quality. Selling high.

Barley—Not much raised. It is of good quality and is selling high.

Flax—I do not know of any flax in the county.

Buckwheat—I do not know of any buckwheat in the county, but should think it a very poor year for this crop on account of the many rains during the first part of October.

Sorghum—But very little sorghum, but what there is, is good and was taken to the mill in good condition.

Timothy—Short and thin on account of the early drouth. About two thirds of the average crop.

Clover—Total failure of new seedings but the fall rains have helped that which survived the dry weather.

Prairie Hay—Not much left but what there is, is good.

Potatoes—Early potatoes, very short crop. The late ones are a good crop.

Vegetables—Did very well.

Apples—The best crop for many years.

Cattle—Good demand for cattle and they are selling high.

Horses—Average supply and demand. Many good ones in the county.

Swine—A very good year for swine. No sickness to speak of.

Sheep—About the same as usual; not many in the county.

Poultry—Eggs did not hatch as well as usual; not much sickness.

Bees—Were killed by the severe winter; not many stands survived until spring. There is but very little honey to be obtained and it is selling high.

Drainage—Progressing rapidly.

Other Industries—Normal.

Lands—Raising in value and selling up to $150.00 per acre for improved farms.

Report of Fair—Held at Allison, September 12th to 14th, inclusive. Weather conditions were not very favorable. Largest total attendance in the history of the fair and we came out even financially.

CALHOUN.

T. GRIFFIN, MANSON, OCTOBER 1, 1911.

General Condition of Crops and Season—Crops fairly good; early part of summer too dry.

Corn—Average yield.

Oats—From 40 to 50 bushels per acre.

Buckwheat—Good.

Millet—Extra good.

Timothy—Light crop.

Clover—Light.

Prairie Hay—Light.

Potatoes—Early ones a failure; late ones good.

Apples—Big crop.

Other Fruits—Dry weather injured small fruit.

Cattle—In good condition; late rains have made good pastures.

Horses—Usual number and in good condition.

Swine—Lots of spring pigs.

Sheep—In good condition.

Poultry—County full of chickens; no disease reported.

Bees—Failure.

Drainage—Land well tiled.

Lands—But very little changing hands; selling from $125 to $175 per acre.

Report of Fair—Held the 22nd to 25th of August, inclusive, at Manson. All departments were well filled; unusually good display of stock; weather fine and crowds good.

CALHOUN.

A. J. HUNTER, ROCKWELL CITY, OCTOBER, 1911.

General Condition of Crops and Season—Average crop except in a small portion of the county that was struck by a hail storm. The season was dry during June and July.

Corn—Good, except in the northeastern part of the county, where it was hurt by hail. Average 40 to 60 bushels per acre.

Oats—Same as corn; average 35 to 60 bushels per acre.

Wheat—Fair; small acreage.

Rye—Not much raised.

Barley—A fair crop but not much raised.

Flax—Making a good yield on new land. Crop somewhat late.

Buckwheat—Good.

Millet—Good crop.

Timothy—Did not exceed one-half a crop; season was too dry.

Clover—Pastures good; lots of late second growth.

Prairie Hay—Somewhat light but first class quality.

Potatoes—Very light yield.

Vegetables—Plenty of vegetables and of good quality.

Apples—Lots of apples, especially the fall varieties.

Other Fruits—Largest crop of plums and cherries we have had for years.

Cattle—In fine condition and better quality than ever before.

Horses—Lots of good horses and fine colts.

Swine—Somewhat under the average in quality but lots of fall pigs.

Sheep—An increasing industry.

Poultry—Increasing each year; a fine variety in this county.

Drainage—Do not believe any other county in the state has more drainage districts than this county; in fact we are pretty well tiled out.

Lands—About $10.00 higher than a year ago; price ranges from $125.00 to $175.00 per acre.

Report of Fair—Held at Rockwell City, July 25-28th. This is our fourth year and while it was very dry and dusty we had the biggest crowds and the most exhibits we have ever had.

CARROLL.

CHAS. M. RUSSELL, CARROLL, NOVEMBER 7, 1911.

General Conditions of Crops and Season—One-half average crop. Season very dry.

Corn—Two-thirds of a crop; about 30 to 35 bushels per acre; fair quality.

Oats—One-half crop; 25 to 30 bushels per acre; quality light.

Wheat—15 to 20 bushels per acre; quality excellent. Winter wheat good.

Rye—Not enough grown to estimate.

Barley—One-half crop. 15 to 20 bushels per acre. Color and quality good.

Flax—8 to 10 bushels per acre; quality fair.

Buckwheat—Not grown.

Millet—Light for hay; no seed crop here.

Sorghum—Fair.

Timothy—Very light; quality good.

Clover—One-half hay crop; good seed crop, yielding from one to three bushels per acre.

Prairie Hay—Good.

Other Grains and Grasses—Pasture very poor.

Potatoes—One-half crop; from 50 to 100 bushels per acre. Late potatoes are of good quality.

Vegetables—Short.

Apples—Extra fine and a big crop.

Other Fruits—Fair.

Cattle—A decrease in number.

Horses—An increase in number and prices are higher.

Swine—An average crop; very little sickness.

Sheep—Not many raised; a large number on feed.

Poultry—An increase over last year.

Drainage—A large amount of tiling done this year and the indications are more will be done in 1912.

Other Industries—Prospering.

Lands—Going up. $100.00 to $175.00 per acre.

Report of Fair—Held at Carroll, September 5-6-7 and 8. The weather was against us but we were very successful from an agricultural standpoint. Exhibits in floral hall were fine and the horse show especially good. The attendance was good considering the weather.

CASS.

D. P. HOGAN, MASSENA, OCTOBER 6, 1911.

General Condition of Crops and Season—Below the average.

Corn—Good acreage; average about 25 bushels per acre; quality good.

Oats—Yield light, about 20 to 25 bushels per acre; quality good.

Wheat—Winter wheat extra good, both as to quality and quantity. Spring wheat was also good.

Rye—None.

Barley—Very little grown; quality and yield good.

Flax—None.

Buckwheat—None.

Millet—None.

Sorghum—Very little.

Timothy—Light crop of hay; seed fairly good.

Clover—New seeding a fair crop; old seeding light.

Prairie Hay—Very little in the county.

Other Grains and Grasses—Bluegrass was fair in the spring but very short during the summer.

Potatoes—Early ones a very light crop; late ones almost a failure.

Vegetables—Small crop.

Apples—Best ever grown here.

Other Fruits—Plums good.

Cattle—Thin on account of poor pasturage. I believe the supply is short.

Horses—About the same as last year.

Swine—Large stock of pigs but they have not done so well as usual on account of dry pastures.

Sheep—Good stock of lambs and more than the average number of feeders. Lambs only are in fair condition. Pastures short.

Poultry—Plenty.

Bees—Fair.

Drainage—Considerable tiling being done.

Lands—Values holding strong.

Report of Fair—Held at Massena September 4-7 inclusive. A very good fair. Attendance good. Unusually good swineshow.

CEDAR.

C. F. SIMMERMAKER, TIPTON, OCTOBER 2, 1911.

General Condition of Crops and Season—The forepart of the season was very dry. However, we had occasional rains which insured us good crops. Had a very heavy rain on September 6th and have had plenty since that date. Crops in general are good and our farmers are prosperous.

Corn—Good crop; above the average; large acreage.

Oats—Fair crop; some fields very poor while others were very good, going from 40 to 50 bushels per acre.

Wheat—Good; not a large acreage.

Rye—Fair crop; quality good.

Barley—Good; quality fair.

Flax—None raised.

Buckwheat—None raised.

Millet—None raised.

Sorghum—None raised.

Timothy—Crop light; quality extra good

Clover—Fair crop; quality good.

Prairie Hay—None to speak of.

Other Grains and Grasses—None to speak of.

Potatoes—Early potatoes poor; late ones good.

Vegetables—Good; plenty of all kinds.

Apples—Extra good; going to waste on the ground. Trees overloaded with large fruit.

Cattle—Fair supply at home and many are being shipped in from South Dakota and other points.

Horses—Good horses are scarcer than a year ago; prices high.

Swine—Plenty; very little cholera.

Sheep—Not a great many; some disease in the larger herds.

Poultry—Good poultry plentiful.

Bees—Not a very good year; quality of the honey is good, however.

Drainage—Most of this county is drained out.

Other Industries—Very prosperous.

Report of Fair—Held at Tipton, September 5-8, inclusive. Unfavorable weather but all departments were well filled and those in attendance declared it the best fair ever held in Cedar county. Good attractions.

CERRO GORDO.

ARTHUR PICKFORD, OCTOBER, 1911.

General Condition of Crops and Season—The season opened in good time and until the latter part of June there has seldom been a season of such vigorous growth and splendid promise. However, the lack of rainfall began to tell on all crops and while some crops were a total failure others were fairly good.

Corn—On clay subsoil and tile drained fields the crop varies from fair to good but on sandy soils, with gravel subsoil, the crops are poor.

Oats—Very badly injured by smut, both early and late varieties being affected. In general the early oats yield better than the late ones. The straw was good and the yield about one-half to two-thirds of a good crop.

Wheat—Very good quality and generally a good yield. The mixed oats and wheat yielded better than wheat alone.

Rye—Good quality but quite short in the straw. More rye being sown than heretofore.

Barley—The yield per acre was light but the crop was saved in good condition.

Flax—More sown than usual and the crop was of good quality and cleaner than usual.

Buckwheat—Very little buckwheat was sown.

Millet—A good deal of millet was sown on account of the short hay crop. The growth was remarkable and the weather for curing it was excellent.

Sorghum—Not as much raised as formerly but the crop was good.

Timothy—Despite the poor hay crop much timothy was cut for seed and growers realized high prices.

Clover—Last spring's seeding was almost a total failure. No clover was cut for seed and hay was one-fourth of a crop.

Prairie Hay—Practically no upland prairie hay but owing to the drought the coarse slough land was good this year.

Potatoes—Early ones an entire failure but late varieties yielded well and are of good quality.

Vegetables—Scarce early in the season but later plentiful.

Apples—Splendid crop; no wormy or scabby fruit. No sale for fall apples.

Other Fruits—With the exception of strawberries all small fruits were a failure.

Cattle—Looking well and are plentiful. Will winter in good shape.

Horses—Fair supply and cheaper than a year ago. The spring lot of colts were good.

Swine—Free from disease and doing well.

Sheep—Increasing. The short pastures has not affected sheep as other live stock. The stock of lambs was short this spring.

Poultry—This has been an excellent year for raising young chicks and the loss from storms, etc., has been less than usual.

Bees—Honey supply short. Bees will go into winter with not enough honey to keep them until spring.

Drainage—Considerable tile being put in.

Other Industries—Prospering.

Lands—Increasing in value. Many farms have been sold for near the $100.00 mark and several farms have sold for more.

Report of Fair—Held at Mason City the second week in September. Weather fairly good; attendance good; attractions good; in fact it was the best fair ever held. We show about 360 per cent increase in the premiums paid out over the first fair ever held in the county.

CHICKASAW.

C. L. PUTNEY, NASHUA, OCTOBER 23, 1911.

General Condition of Crops and Season—About an average crop.

Corn—Good quality; about 45 bushels per acre.

Oats—Fair quality; about 25 to 30 bushels per acre.

Wheat—Very little raised; small prices; fair yield.

Rye—Very little raised.

Barley—Very little raised.

Flax—None.

Buckwheat—Very little raised.

Millet—Good.

Timothy—Good crop; good quality.

Clover—Very little raised this year; quality good.

Prairie Hay—Small crop.

Potatoes—Very few early potatoes; too dry. Late varieties good quality and good yield.

Vegetables—All good.

Apples—Good.

Cattle—Better stock being raised each year. About the usual number this year.

Horses—Better quality each year.

Swine—More full blooded hogs and better care taken of them.

Sheep—Very few but on the increase.

Poultry—Increasing each year.

Bees—Very few.

Drainage—Some tiling being done but not as much as had been planned on account of the dry weather.

Lands—Increasing in value. Valuations from $80.00 to $125.00 per acre.

Report of Fair—Held at Nashua, September 5-8. Had a rainy week; attendance was cut down one-half. Exhibits nearly up to average.

CHICKASAW.

G. M. BIGELOW, NEW HAMPTON, OCTOBER 19, 1911.

Corn—General conditions good; acreage large; yield fully up to average for this locality.

Oats—Good quality; yield about 75% of an average crop.

Wheat—Very little raised; quality poor.

Rye—Practically none grown.

Barley—Fair quality; small yield.

Flax—Fair quality; small yield.

Buckwheat—Scarcely any raised.

Millet—Very little raised.

Sorghum—Good quality; not much grown.

Timothy—Good quality; very light crop.

Clover—None raised this year; too dry.

Prairie Hay—Very scarce.

Potatoes—Late ones good; no early ones.

Vegetables—Generally good.

Apples—Very good.

Other Fruits—What we had were good.

Cattle—Plentiful and in fair condition.

Horses—In fair condition and plentiful.

Swine—Good condition and plentiful.

Sheep—Not many raised in this county but they are in good condition.

Poultry—Plentiful.

Bees—Not many.

Drainage—Good.

Lands—Prices higher than ever; constantly increasing in value.

Report of Fair—Held at New Hampton on September 12-15 inclusive. The stock exhibits were not as good as usual but the farm products exhibit was fine.

CLARKE.

General Condition of Crops and Season—Below average.

Corn—1,441,810, pop corn 44, sweet corn 22. Total, 1,441,876 bushels.
Oats—503,145 bushels.
Wheat—9,901 bushels.
Rye—278 bushels.
Barley—4, 578 bushels.
Timothy—Seed, 7,794 bushels. Hay 25,409 tons.
Clover—103 tons.
Prairie Hay—184 tons.
Potatoes—22,373 bushels.
Cattle—22,323.
Horses—8,970; mules 466.
Swine—29,690.
Sheep—2,673.
Poultry—205,508.
Report of Fair—None.

CLAYTON.

H. A. AXTELL, STRAWBERRY POINT, OCTOBER 31, 1911.

General Condition of Crops and Season—Excellent.
Corn—Large crop; excellent quality.
Oats—Same.
Barley—Good quality.
Flax—None raised here.
Buckwheat—Very little raised here.
Sorghum—Quite a little manufactured here.
Timothy—Considerable marketed here this fall.
Prairie Hay—None.
Potatoes—Large crop; excellent quality.
Vegetables—Plenty for local consumption; good quality.
Apples—Immense crop this year.
Other Fruits—Plentiful this year.
Cattle—Very few in feeding: practically all dairying in this vicinity.
Swine—Has been a very successful year for swine.
Sheep—Very few in the county.
Poultry—Large numbers shipped from here.
Bees—Very few.
Drainage—Considerable tiling done.
Lands—Bringing good prices, averaging from $80 to $135 per acre.
Report of Fair—Held at Strawberry Point September 5-6-7-8, 1911. Rain on Wednesday and part of Thursday morning.

CLAYTON.

HENRY LUEHSEN, GARNAVILLO, SEPTEMBER 27, 1911.

General Condition of Crops and Season—Good average crop; farmers are well pleased. The dry weather in July put a little damper on the small grain and the early potatoes but the fall weather is all that can be looked for and the corn is maturing fine.

Corn—A bumper crop.

Oats—Good average crop. The rainy weather during threshing time discolored some of it quite badly.

Wheat—Very little raised.

Rye—Very little raised; quality good.

Barley—Good crop and the farmers are receiving a good price for it.

Flax—None raised.

Buckwheat—Very little raised.

Millet—Not much raised.

Sorghum—Big yield and of good quality.

Timothy—Good yield and selling at a high price.

Clover—Small yield.

Prairie Hay—Light yield.

Other Grains and Grasses—About up to the average.

Potatoes—The early ones were a failure but the late ones are doing fine.

Vegetables—Large yield and of good quality.

Apples—One of the best crops we have had for years; fine quality.

Other Fruits—A good all around crop.

Cattle—Our farmers take great pride in their cattle. Some very fine specimens were on exhibition at the fair.

Horses—Clayton county can boast of having some of the finest draft and carriage horses. Nothing too good for our farmers.

Swine—Our principal industry. Swine are raised in large numbers and are of the choicest breeds.

Sheep—A number of our farmers have large flocks.

Poultry—One of our leading industries and the farmers are realizing a handsome profit from their flocks.

Bees—A good crop of honey.

Drainage—Natural.

Lands—Always increasing in price with but little for sale.

Report of Fair—Held at National, September 5-8, inclusive. The weather was not very favorable, consequently the attendance was not up to standard. However the exhibits were better than usual, particularly in the Fruit, Grain and Vegetables, Ladies' Department and Floral Hall.

CLAYTON.

W. W. DAVIDSON, ELKADER, OCTOBER 23, 1911.

General Condition of Crops and Season—Good.

Corn—Grand crop.

Oats—Good.

Wheat—Fair.

Rye—Good.

Barley—Excellent.

Flax—None.

Buckwheat—Very little grown.

Millet—Good.

Sorghum—Good.

Timothy—Fair.

Clover—Good.

Prairie Hay—None.

Other Grains and Grasses—Good.

Potatoes—Abundant crop.

Vegetables—Good.

Apples—Splendid yield; good variety.

Other Fruits—Good.

Cattle—Good condition.

Horses—In good condition; quality good.

Swine—A large number and good.

Sheep—Not many raised.

Poultry—Abundant.

Bees—Very few.

Drainage—Natural.

Lands—High priced.

Report of Fair—Large attendance, weather not very good. Held September 13-15, inclusive at Elkader.

CLINTON.

J. B. AHRENS, CLINTON, SEPTEMBER 28, 1911.

General Condition of Crops and Season—Fairly good; some crops were light.

Corn—Good yield, running as high as 85 bushels per acre.

Oats—Good yield and good quality.

Wheat—Not much raised but quality was good.

Rye—Not much raised; fair quality.

Barley—Good yield and good quality.

Flax—None raised.

Buckwheat—None raised.

Millet—None raised.

Sorghum—None raised.

Timothy—Very light yield.

Clover—Fairly good.

Prairie Hay—Very light crop.

Other Grains and Grasses—Fairly good.

Potatoes—Early ones not much of a yield; late ones good.

Vegetables—Good.

Apples—Plentiful.

Other Fruits—Plentiful.

Cattle—About the average number; feeding cattle plentiful.

Horses—More than usual this year.

Swine—Larger number than usual.

Sheep—Very few raised.

Poultry—Plentiful.

Bees—None in this part of the county.

Drainage—Good.

Other Industries—Doing a good business.

Lands—Values going up every year, the highest price being $175 per acre for best improved farms.

Report of Fair—Held at Clinton, September 20, 21 and 22d. The weather was not very good and therefore the attendance was not so large as in former years. The exhibits were good.

CLINTON.

G. H. CHRISTENSEN, DEWITT, OCTOBER 16, 1911.

General Conditions of Crops and Season—Good.

Oats—Fair.

Wheat—Fair.

Barley—Fair.

Flax—None.

Buckwheat—None.

Millet—None.

Sorghum—None.

Timothy—Fair.

Clover—Fair.

Prairie Hay—Fair.

Other Grains and Grasses—Fair.

Potatoes—Good late potatoes.

Vegetables—Good.

Apples—Good; above the average.

Other Fruits—Good.

Cattle—Good.

Horses—Good.

Swine—Good.

Sheep—Good; not many here.

Poultry—Good.

Drainage—Good.

Other Industries—Good.

Lands—Going up; value $125 to $175 per acre.

Report of Fair—Held at DeWitt, September 13-15, inclusive. The best fair in the history of its existence.

CRAWFORD.

O. M. CRESWELL, ARION, OCTOBER 25, 1911.

General Condition of Crops and Season—Crops light; season extremely dry.

Corn—Will average about two-thirds of a crop, or about 25 oushels per acre.

Oats—Good quality but light yield.

Wheat—Winter wheat excellent; spring wheat yielded from 8 to 20 bushels per acre.

Rye—Fair; not much raised.

Barley—Good quality; light crop.

Flax—None raised.

Buckwheat—None.

Millet—None.

Sorghum—None.

Timothy—Seed very good; hay crop light.

Clover—Hay light; seed good yield.

Prairie Hay—None.

Potatoes—Very light crop.

Vegetables—Very good.

Apples—Plentiful.

Other Fruits—Very good.

Cattle—In good condition and about an average number; very few feeding.

Swine—In good condition and good stock of young pigs. No cholera.

Sheep—Only kept in this county for feeding purposes.

Poultry—About an average.

Bees—Very poor season for them on account of drouth.

Drainage—None.

Other Industries—None.

Lands—Raising in value but not much changing hands.

Report of Fair—Held at Arion, September 26-28, inclusive. A very successful fair.

DALLAS.

O. L. GRAY, DALLAS CENTER, DECEMBER 7, 1911.

Corn—Below average; about 75 per cent of an average crop.

Oats—About 65 per cent of an average crop.

Wheat—Winter wheat fully up to average and spring varieties better than average.

Rye—Very little raised.

Barley—Average crop; small acreage.

Flax—None raised.

Buckwheat—Very little raised; poor crop.

Millet—Practically a failure.

Sorghum—Very fair; good quality.

Timothy—Light crop; good quality.

Clover—Same as timothy.

Prairie Hay—Very little cut; good quality.

Other Grains and Grasses—Alfalfa fair crop; three cuttings, good quality.

Potatoes—Not over one-half a crop; only fair quality.

Vegetables—Generally light; fair quality.

Apples—Big yield; good quality.

Other Fruits—Cherries an average crop; plums and grapes good; bush fruit very good.

Cattle—Not many feeding cattle raised; feeders shipped in; feeding conditions about normal.

Horses—Good lot of colts; quality improving rapidly.

Swine—Good deal of disease, otherwise hogs are doing well.

Sheep—Light crop.

Poultry—Good crop.

Bees—Poor.

Drainage—Considerable county and private drainage.

Other Industries—Normal.

Lands—Increasing in value but not much changing hands.

Report of Fair—None.

DAVIS.

H. C. LEACH, BLOOMFIELD, OCTOBER 6, 1911.

General Condition of Crops and Season—Only fair.

Corn—About one-half crop.

Oats—About one-fourth crop; quality good; about the usual acreage.

Wheat—About two-thirds of a crop; quality fair.

Rye—Acreage small; fair crop; quality good.

Barley—None raised.

Flax—None raised.

Buckwheat—Practically none sown this year on account of the dry weather.

Millet—Short crop; quality good.

Sorghum—About the average acreage; quality fine.

Timothy—Crop somewhat light; about one-half an average crop.

Prairie Hay—None raised.

Other Grains and Grasses—All somewhat short on account of drouth.

Potatoes—Almost a failure; too dry.

Vegetables—Same as potatoes.

Apples—Large yield; quality good.

Other Fruits—About the same as apples.

Cattle—Scarce. Farmers sold off their herds quite closely during the dry seasons of 1910-11. Quality is good, however.

Horses—The usual number; mostly draft horses.

Swine—Average number in the county. Poland-Chinas and Duroc Jerseys predominate.

Sheep—More sheep than ever in the county and they appear to be doing well.

Poultry—Very plentiful.

Bees—Scarce.

Drainage—Lots of talk about it but not much being done.

Lands—Selling from $50 to $150 per acre and advancing all the time. Farmers take quite an interest in building up their land by sowing clover as a fertilizer.

Report of Fair—Held at Bloomfield, September 12th to 15th, inclusive; attendance was good and altogether we had the best fair we have ever had in this county.

DELAWARE.

J. B. HIGMAN, MANCHESTER, OCTOBER, 1911.

Corn—Good, better than normal.

Oats—Fair yield but badly damaged while in the shock by the excessive rains. About 35 bushels per acre.

Wheat—About 20 bushels per acre; also damaged by rains.

Rye—20 bushels per acre, badly colored; selling at 75c per bushel.

Barley—Same as other small grain.

Buckwheat—Looking good.

Millet—Good crop.

Sorghum—Yield good, but not much raised.

Timothy—About 3 bushels per acre, selling at $6.00 per bushel. Hay about one-half crop. selling at $14.00 per ton.

Potatoes—Less than one-half crop. 75c per bushel.

Vegetables—Cabbage and late turnips good.

Apples—About a normal yield; selling at 50c.

Cattle—General condition good, pastures good. Fresh cows bring around $50.00.

Horses—Selling at good prices.

Swine—Most of the old stock sold and spring pigs rather backward on account of lack of grain. No hog cholera reported.

Lands—Increasing in value; many sales at $150.00 per acre. Farms rent for from $3.00 to $6.00 per acre.

Report of Fair—Held at Manchester, August 29th to September 1st, inclusive. Fine display of all kinds of stock; also had good exhibits in Floral Hall and Grain and Vegetable departments.

DICKINSON.

F. H. KELSEY, MILFORD, OCTOBER 23, 1911.

General Condition of Crops and Season—Season very dry; small grain and hay crop light; corn crop fair.

Corn—Estimated at 20 bushels.

Oats—Average 10 bushels, estimated.

Wheat—Estimated at 20 bushels.

Rye—Very little raised.

Barley—Fair crop; about 20 bushels per acre; small acreage.

Flax—Too dry for flax.

Buckwheat—None.

Millet—None.

Sorghum—Fair.

Timothy—Light.

Clover—Very light.

Prairie Hay—Light.

Other Grains and Grasses—Light.

Potatoes—Late ones are good.

Vegetables—Late ones good.

Apples—Good.

Other Fruits—Very short crop.

Cattle—Scarce.

Horses—Good lot of colts.

Swine—Big crop.

Poultry—Lots of it.

Bees—Quite a number.

Drainage—Considerable done during the past year; some still at it.

Other Industries—Great deal of building being done both in the country and in the towns.

Lands—A good many sales made, some as high as $135.00 per acre.

Report of Fair—Held at Milford, September 13th to 15th, inclusive. Attendance good.

DICKINSON.

W. W. WHITE, SPIRIT LAKE, OCTOBER 7, 1911.

General Condition of Crops and Season—Crops light; season dry.

Corn—Acreage above last year; yield about 25 bushels per acre; quality good.

Oats—Yield 20 bushels per acre; quality good.

Wheat—Acreage normal; quality good; yield 12 bushels.

Rye—Very little raised in this county; no report.

Barley—Very light yield; quality fair.

Flax—Light yield; very uneven.

Buckwheat—Very little raised; no report.

Millet—Fair yield; small acreage.

Sorghum—Good yield; small acreage.

Timothy—Very light.

Clover—Badly winter killed.

Prairie Hay—Light crop; good quality.

Potatoes—Early potatoes light; late ones good average yield; good quality.

Vegetables—Good.

Apples—Slightly below average.

Other Fruits—Very good; small fruit fair.

Cattle—Supply slightly under normal; in good condition.

Horses—Usual number; grade improving.

Swine—Average number of young pigs. Weight less than at this time last year.

Sheep—Good lot of lambs; in good condition and grade improving.

Poultry—Normal.

Bees—Normal.

Drainage—A great deal of drainage being done. Less, however, this year than last, owing to the dry season.

Other Industries—Fully up to the average of the past ten years, but not quite so good as last year.

Lands—Fewer sales than a year ago; prices the same or better, ranging from $60 to $140.

Report of Fair—Held at Spirit Lake, September 6th to 8th, inclusive, but held over on the 9th on account of bad weather. Exhibits were good; attendance light.

DUBUQUE.

J. T. DAYKIN, DUBUQUE, NOVEMBER 16, 1911.

General Condition of Crops and Season—Good.
Corn—Extra.
Oats—Fair.
Wheat—Good.
Rye—Fair.
Barley—Good.
Sorghum—Good.
Timothy—Fair.
Clover—None.
Prairie Hay—None.
Other Grains and Grasses—Fair.
Potatoes—Good.
Vegetables—Good.
Apples—Extra.
Other Fruits—Good.
Cattle—Good condition.
Horses—Good condition.
Swine—Good condition.
Sheep—Good condition.
Poultry—Good condition.
Bees—Fair.
Drainage—Good.
Other Industries—None.
Lands—Fair, and of good value.
Report of Fair—None held.

EMMET.

CHAS. A. ROOT, OCTOBER, 1911.

General Condition of Crops and Season—About 60 per cent of the average crops; weather too dry during the early part of the growing season. Crops more or less injured by grasshoppers.

Corn—East portion of the county good; the west portion about one-half an average crop.

Oats—Light yield.

Wheat—Good crop; small acreage.

Barley—Less than the average crop.

Flax—Generally good but quite a little did not mature and some injured by the rains after cutting.

Timothy—Very poor; not enough rain.

Clover—Poor.

Prairie Hay—Poor.

Potatoes—Early potatoes fair crop; late ones good. Some frozen in the ground.

Cattle—In good condition. A good many farmers had to cut up corn for feed during the summer but late rains made good pastures and brought the cattle out in good condition for winter.

Horses—Good condition.

Swine—Not a very favorable season; no disease.

Sheep—Good.

Poultry—Good season.

Drainage—Extra good season for drainage on account of dry weather. The county let contracts for over $400,000.00 drainage.

Lands—Quite a few farms changing hands at an advance of from $10.00 to $30.00 per acre.

FAYETTE.

E. A. MCILREE, WEST UNION, OCTOBER 14, 1911.

General Condition of Crops and Season—Have been exceptionally good in this county the past year.

Corn—One of the best crops produced in many years. The entire crop came to full maturity without a frost and fully three-fourths of the crop was cut for fodder. Husking has commenced and the yield is fine.

Oats—Fine quality; yield cut down somewhat by the drouth the forepart of the season. Straw was exceptionally good.

Wheat—Very little winter wheat, but some spring wheat. The quality was very fine and the yield good.

Rye—Cut short by the drouth in the spring; not much grown in this county.

Barley—One of the largest and most profitable crops raised in the county. The yield was from 30 to 40 bushels per acre, and the quality was good. Sold at $1.00 per bushel.

Flax—Not grown in sufficient quantity to be an item of any consequence.

Buckwheat—Grown in very limited quantities.

Millet—Only grown in small fields, then sparingly.

Sorghum—Has become quite a factor again. Probably 50 mills have been working up the crop in this county. The quality of this crop was extra good this year.

Timothy—A light crop on account of the failure of new seeding, both last year and this year. The few pieces cut for seed produced extra good returns. In some cases as high as $50.00 per acre.

Clover—A very low stand. New seeding of last year and this year were both almost total failures.

Prairie Hay—Scarcely any left; light crop.

Other Grains and Grasses—Some alfalfa being sown for experimental purposes with good results.

Potatoes—Early varieties a disappointment; late ones an excellent crop.

Vegetables—Exceptionally fine.

Apples—Never more plentiful. At a low estimate I would say that 15,000 to 20,000 bushels rotted on the ground.

Other Fruits—Very plentiful, excepting grapes, which were badly winter killed. Wild grapes were plentiful and were of fine quality.

Cattle—Have been in good condition the entire year; no disease; high prices and in good demand.

Horses—Largely on the increase; no disease; prices high and a fine stock of young colts.

Swine—Not so plentiful as in some previous years, largely due to the high price of corn. There has been no disease.

Sheep—Have not been very profitable in this county but the lambs did well this spring and the prices have been very satisfactory.

Poultry—The dry season was favorable to the raising of poultry and they have done well.

Bees—Very scarce in the county on account of disease.

Drainage—Not much done on account of the drouth.

Other Industries—On the increase, particularly the cement industries.

Lands—Have been in good demand at prices from $10.00 to $25.00 per acre higher than last year.

Report of Fair—Held at West Union, September 5th to 8th, inclusive, under rather unfavorable weather conditions. Good live stock exhibits and the grain, vegetable, pantry and kitchen exhibits were fine. The fruit exhibit was the largest and finest we have ever had. We had good attractions, although we had no racing; in fact the management is very well pleased with the outcome of the fair this year.

FAYETTE.

C. H. KNOS, OELWEIN, OCTOBER 28, 1911.

General Condition of Crops and Season—In general the crops are good.

Corn—Will yield all the way from 30 to 80 bushels per acre; good quality.

Oats—Quantity good; quality not so good.

Wheat—None.

Rye—None.

Barley—Very little barley raised.

Flax—None.

Buckwheat—None.

Millet—None.

Sorghum—None.

Timothy—Very good.

Prairie Hay—None.

Other Grains and Grasses—None.

Potatoes—Very good.

Vegetables—Very good.

Apples—Not many.

Cattle—Principally dairy.

Horses—Not enough in the county to supply the demand and shipments are coming in from the northwest.

Drainage—Most farmers are tiling their farms.

Lands—No increase in the price over last year.

Report of Fair—Held at Oelwein, September 13th to 15th, inclusive. Exhibits and attendance good. The fair association was very much encouraged over the outcome.

FLOYD.

JAMES A. KING, CHARLES CITY, IOWA, NOVEMBER 15, 1911.

General Condition of Crops and Season—In general, the drouth came too late to materially injure small grain and was broken in time to save most of the corn. Hay was generally light. The man who planted and seeded early, who thoroughly prepared his seed beds, and who cultivated assiduously has a good yield of excellent quality.

Corn—Quality very good and in most parts of the county the yield is ten per cent above the average. That on very sandy ground only was injured by the drouth.

Oats—Generally very good and the yield above the average. Grasshoppers did slight damage.

Wheat—Acreage larger than in years; quality and yield good. Spring wheat yielded from 18 to 25 bushels and the late went as high as 30 bushels per acre.

Rye—Do not know of any raised this year.

Barley—Do not know of any.

Flax—Good yield and quality; small acreage.

Buckwheat—Do not know of any.

Millet—Small acreage but good average yield.

Sorghum—Do not know of any.

Timothy—Yield about 70 per cent.

Clover—Most of last year's seedings with small grain failed so the acreage was cut down considerable.

Other Grains and Grasses—Two or three fields of alfalfa seeded successfully.

Potatoes—Early ones practically a failure; late ones about average.

Apples—Unusually large yield of excellent quality.

Other Fruits—Summer fruits injured badly by drouth.

Cattle—Not the usual number but the grade is improving.

Horses—In good condition.

Swine—In good condition.

Drainage—Lots of tile being put in.

FRANKLIN.

C. D. WILLIAMS, HAMPTON, OCTOBER 30, 1911.

General Condition of Crops and Season—Very dry up until September. About two-thirds of an average crop.

Corn—Will go from 20 to 40 bushels per acre. Feeders are offering 55 cents per bushel.

Oats—Yielded from 20 to 40 bushels.

Wheat—Very little grown.

Rye—No rye.

Barley—Yielded about 20 bushels; very little raised.

Flax—None to speak of.

Buckwheat—None.

Millet—Some millet.

Sorghum—Good. Only a few small patches.

Timothy—Short crop. Worth about $15.00 per ton.

Clover—Short crop; high prices.

Prairie Hay—None.

Potatoes—Early ones poor; late ones good. Selling at 50c per bushel

Vegetables—Good.

Apples—Splendid crop; selling cheap.

Other Fruits—Good.

Cattle—Good many cattle but not so many on feed as usual.

Horses—We have splendid horses, mostly of the draft type.

Swine—Good stock of hogs.

Sheep—An increasing industry.

Poultry—Chickens and turkeys are plentiful.

Bees—Not many.

Drainage—Several drainage ditches in our county but don't think the open ditch is a success.

Other Industries—We have a splendid sweet-corn canning plant which is doing a good business.

Report of Fair—Held at Hampton, September 26th to 29th, inclusive. One of the best fairs ever held on our grounds. The weather was not of the best but we will pay out.

GRUNDY.

L. M. HAWN, GRUNDY CENTER, OCTOBER 12, 1911.

General Condition of Crops and Season—Early part of the season was very favorable for all vegetation and crops but the extremely dry weather during June and July did some damage to corn and hurt the potato crop severely. Small grain made a good crop.

Corn—Early growth of corn heavy but was somewhat retarded by dry weather during the summer season. Favorable weather during September has matured it in good shape.

Oats—Average 40 bushels per acre, quality good.

Wheat—Small acreage; yield very good.

Rye—None raised.

Barley—Good crop and splendid quality.

Flax—None raised.

Buckwheat—None raised.

Millet—Very little sown; light crop.

Sorghum—None grown.

Timothy—Light crop.

Clover—Very light acreage harvested, much of it being winter killed.

Prairie Hay—No prairie hay; a little slough hay of poor quality.

Other Grains and Grasses—Blue grass is the main pasturage and was materially affected by the hot dry weather during summer months.

Potatoes—Small acreage compared with former years; yield light but of good quality.

Apples—Heavy crop; good quality.

Other Fruits—Very good crop.

Cattle—Cattle have made very poor gain on account of the dry season and hot weather. The general condition of grass cattle is below the average here for this time of year.

Horses—Good grade; prices excellent and many being sold to eastern buyers.

Swine—About the usual number raised; generally free from disease.

Sheep—Not many raised in this county but what we have are of a very good grade.

Poultry—Good price. About the average number.

Bees—Not many; honey crop short.

Drainage—Nearly completed in this county; less being done this season than for several years past.

Other Industries—Two tile and brick factories running at full capacity most of the time. Several good creameries throughout the county and they are putting out an excellent product.

Lands—Rolling prairie. Values remain steady, with prices ranging from $125.00 to $200.00 per acre. Several sales being made to eastern buyers.

Report of Fair—Held at Grundy Center on September 19th to 21st. The attendance was large and the gate receipts were $600.00 above any previous year. All departments were well filled and the qualtiy of the exhibits was good, especially in the grain, fruit and vegetable departments. The large exposition building could not take care of the ladies' exhibits. Generally speaking the fair was a success in every way.

GUTHRIE.

W. M. WELLS, GUTHRIE CENTER, NOVEMBER 22, 1911.

General Condition of Crops and Season—Splendid season, aside from the excessive hot and dry weather during the months of July and August. This dry weather caused a shortage in all grains, pasture and hay.

Corn—Will average 25 to 30 bushels per acre; quality is good. The farmers state that the feeding value of corn is excellent.

Oats—Probably will average 25 bushels per acre; good quality.

Wheat—Generally produced well. Not a great deal raised here but of good quality and quantity.

Timothy—Light crop; shortened very much by summer drouth.

Clover—Same as timothy.

Prairie Hay—Same as timothy.

Potatoes—Small yield of early varieties and of poor quality. Late ones were of good quality and the yield was splendid.

Vegetables—Early vegetables were very poor.

Apples—Best crop in years. Even the uncared for orchards produced remarkably good quality.

Other Fruits—Generally produced well.

Cattle—Short supply. Stockers shipped freely during summer months. Some feeding but not so many as usual.

Horses—Not advised.

Swine—Good lot of spring shoats. Grade improving every year.

Sheep—More sheep are being handled here. Several large flocks are kept by large stockmen.

Poultry—About as usual, aside from the fact that here and there poultry raising is more intensified.

Bees—Not advised.

Drainage—Quite well drained. Five county drains in north and east sections. Some creeks cause considerable trouble by overflow. Individual farmers have tiled lands pretty thoroughly.

Lands—Range in price from $50.00 to $200.00 per acre. Generally rolling.

Report of Fair—Held at Guthrie Center. The county fair was a failure because of the excessive wet weather during the fair week. Great interest was manifested at the opening and no doubt the fair would have been an unprecedented success except for above causes. We have a hustling management and they will succeed with weather conditions right.

HANCOCK.

H. A. EARLY, BRITT, OCTOBER 18, 1911.

General Condition of Crops and Season—Very dry during the months of June, July and August.

Corn—70 per cent; good quality.

Oats—60 per cent; fair quality.

Wheat—65 per cent.

Barley—70 per cent; good quality.

Flax—50 per cent; poor quality.

Timothy—58 per cent.

Clover—60 per cent.

Prairie Hay—60 per cent.

Other Grains and Grasses—60 per cent.

Potatoes—48 per cent.

Vegetables—50 per cent.

Apples—85 per cent.

Other Fruits—85 per cent.

Lands—Average value, $80.00 per acre.

Report of Fair—Held at Britt, September 19th to 21st, inclusive. It rained on the 20th and 21st but we had a very good crowd. We cut out all high-priced races and held only county and farmers races.

HARDIN.

H. S. MARTIN, ELDORA, OCTOBER 1, 1911.

Corn—70 per cent.

Oats—Fair.

Wheat—100 per cent.

Rye—None.

Flax—None.

Timothy—70 per cent.

Clover—25 per cent.

Potatoes—Late ones fair; early ones a failure.

Apples—Good.

Cattle—Good condition.

Horses—Good condition.

Swine—Some cholera.

Sheep—Good condition.

Poultry—Good condition.

Report of Fair—Held at Eldora, September 5th to 8th. Rained most all week. Worst week we have had in 20 years.

HARRISON.

A. B. HASBROOK, MISSOURI VALLEY, SEPTEMBER 25, 1911.

General Condition of Crops and Season—The season has not been favorable for the growth of crops. Lack of rainfall during the months of July and August has greatly affected nearly all crops. Crops yielded about two-thirds.

Corn—Greater acreage than usual and was well cultivated. The quality will be good and the yield about two-thirds of a crop.

Oats—Small acreage; quality good; light yield.

Wheat—Perhaps the greatest crop ever produced in the county. We had a large acreage and the yield and quality were excellent.

Flax—But little produced.

Millet—Almost no crop.

Sorghum—But little raised; good quality.

Timothy—The dry weather ruined the meadows in many instances. Yielded from one-half to three-fourths of a ton per acre.

Clover—Short, owing to the drouth.

Prairie Hay—A light crop.

Potatoes—A very light crop.

Vegetables—A light crop; good quality.

Apples—The apple crop is great and the fruit is sound.

Cattle—The exhibit of cattle at the fair was a failure. Much attention is given to the importation of cattle into the county. The Herefords, Red Polled and Short Horns are favorite breeds.

Horses—The exhibition of horses was fair.

Swine—Excellent showing of swine at the fair. The Duroc Jersey is the favorite breed.

Sheep—Some attention is given to the raising of sheep but there are not many in the county as yet.

Drainage—The interest in drainage continues.

Lands—Values still increasing. The drainage greatly stimulates the prices.

Report of Fair—Held at Missouri Valley, September 18th to 21st. We had rainy weather which cut down the attendance but the exhibits were good, although not up to some former years.

HENRY.

JNO. A. BAXTER, WINFIELD, OCTOBER 21, 1911.

General Condition of Crops and Season—We had a very dry season to start with but plenty of rain fell later and I believe we have about the average crops.

Corn—About 90 per cent.

Oats—About 60 per cent.

Wheat—70 per cent.

Rye—70 per cent.

Barley—70 per cent.

Flax—None raised.

Buckwheat—25 per cent.

Millet—25 per cent.

Sorghum—25 per cent.

Timothy—25 per cent.

Clover—75 per cent.

Prairie Hay—None.

Potatoes—15 per cent.

Vegetables—25 per cent.

Apples—100 per cent.

Other Fruits—90 per cent.

Cattle—75 per cent.

Horses—80 per cent.

Swine—75 per cent.

Sheep—75 per cent.

Poultry—90 per cent.

Bees—60 per cent.

Drainage—40 per cent.

Lands—Lands are selling at from $100 to $250 per acre, with not very much changing hands.

Report of Fair—We held our fair at Winfield, on September 12th to 15th, inclusive, but owing to rain we were only able to hold it one day and a half. We had a good display of everything and would have had a successful fair had the weather been favorable.

HENRY.

C. H. TRIBBY, MT. PLEASANT, OCTOBER 27, 1911.

General Condition of Crops and Season—The early part of the season was all that could be asked for but excessive heat and dry weather set in the latter part of June and continued until August.

Corn—We never had as good a stand of corn but the hot weather and lack of rainfall shortened the crop. The quality was good and the yield average. Large acreage.

Oats—Short straw; yield 15 to 45 bushels per acre; quality good.

Wheat—Very little raised and that is all of the fall variety. The crop was light.

Rye—Not much raised; light this year.

Barley—Small acreage; light crop.

Flax—None.

Buckwheat—Not much raised and what we had was damaged by the continued wet weather in September and October.

Millet—Good crop but small acreage.

Sorghum—Less each year.

Timothy—Very light; one-half ton per acre. But little cut for seed.

Clover—Light; large acreage. More being sown each year.

Potatoes—Very light crop; started well but did not have enough moisture to mature. Supply being shipped in.

Vegetables—The very early and late crops good; others light.

Apples—Never better. One-third of the crop went to waste. Not many grown for commercial purposes.

Other Fruits—Berry crop cut short by excessive heat. Cherries, plums and peaches were good.

Cattle—Our people claim land is too high to raise cattle on. We depend mostly on the Missouri River markets for feeders. Not to exceed one-third of the number raised here 15 years ago.

Horses—Plenty of them. Not so many marketable horses as usual as they have been picked up by shippers. Our horses have been materially improved in the last ten years.

Swine—The average number of pigs. The raising of swine is a very profitable industry in Henry County.

Sheep—Many more are raised than in previous years but the flocks were materially reduced this season on account of the short pastures.

Poultry—The poultry, especially the chickens, have outgrown all estimates of years ago. Many of our farmers now pay for all their groceries and part of their dry-goods through this industry.

Drainage—We have but little low, marshy ground that requires large open ditches. Our farms have nearly all been tiled out, or are being tiled now.

Other Industries—Progressing.

Lands—Too much cannot be said of the fertility of the lands of Henry County. Our farms have doubled in value during the past 12 years and today command the very highest prices.

Report of Fair—Held at Mt. Pleasant, August 15th to 18th, inclusive. We had a large attendance; good exhibits; good attractions; in fact the fair was in every way a success.

HOWARD.

M. B. DOOLITTLE, CRESCO, DECEMBER 3, 1911.

General Condition of Crops and Season—The drouth in June and July reduced the crops 30 per cent per acre.

Corn—The early planted corn made five-eights of a full crop. That planted late made a full crop.

Oats—That sown early made a full crop but that sown late was a total failure.

Wheat—Eighteen bushels per acre.

Rye—Thirty-two bushels per acre.

Barley—Forty-four bushels per acre.

Flax—About one-tenth the usual acreage. Yielded about ten bushels per acre.

Buckwheat—About one-eighth of the usual acreage. Yielded about 18 bushels per acre.

Millet—None.

Sorghum—One-fourth the usual acreage. Late in growth and not very sweet.

Timothy—About three bushels of seed to the acre. Hay made three-fourths of a ton per acre.

Clover—Winter killed. None to report.

Prairie Hay—Five-eighths ton per acre.

Other Grains and Grasses—Alfalfa, too little and too uncertain to count.

Potatoes—Early ones made about 50 bushels per acre and the late ones about 150 per acre.

Vegetables—About three-fourths of a crop; some imported.

Apples—Double crop.

Cattle—Not so many raised as four years ago but the grade is better.

Horses—Numerous. Percheron and Clydesdale predominate.

Swine—Abundant. Generally healthy. Some in the southwestern part of the state have died from disease.

Sheep—Sold mostly for the Chicago market.

Poultry—An increased number of chickens raised. Ducks, turkeys and geese scarce.

Bees—There has been no white clover for the past two years and the bees have made very little honey.

Drainage—Next to nothing being done.

Other Industries—A new furniture factory and a stump grubber factory have both located in Cresco.

Lands—Have increased in value.

Report of Fair—No fair held for the last eight years.

HUMBOLDT.

W. B. WEST, HUMBOLDT, OCTOBER 10, 1911.

General Condition of Crops and Season—Not over 50 per cent of the normal average crop on account of the drouth in June, July and August.

Corn—Will average about 30 bushels per acre. More cut for fodder than usual, about 10 per cent more than in 1910.

Oats—Average about 30 bushels.

Wheat—Average 12 to 14 bushels; quality fine, both in color and hardness, grading No. 1 and No. 2 Northern.

Rye—Not much raised.

Barley—Average 30 to 35 bushels, testing 42 to 44 and grading as malt barley.

Flax—Average 4 to 5 bushels; poor quality, grading No. 2.

Buckwheat—Do not know of any.

Millet—Unable to hear of any.

Sorghum—One or two small lots for fodder.

Timothy—Averaged from 2 to 3 bushels of seed per acre; quality good. Hay crop very light.

Clover—Very light on account of drouth. Do not know of any seed.

Prairie Hay—Light and short; quality good. But very little here.

Potatoes—Early averaged 25 bushels per acre and the late ones about 50.

Vegetables—Very scarce; too dry.

Apples—Fair crop. Dry weather seemed to cause them to fall before they matured.

Other Fruits—Good crop of plums; grapes fair.

Cattle—No increase of pure-bred herds and fewer stockers and feeders have been shipped in on account of the short pasture and corn crop.

Horses—Increased interest in breeding good draft type. No interest in roadsters.

Swine—Increase of 10 per cent in spring pigs; all healthy.

Sheep—About the average stock of young lambs. No extensive feeding.

Poultry—Local packing establishment and organized poultry show stimulating interest in both pure bred and farm flocks.

Bees—Very few here.

Drainage—Presume the dry weather and completed drains are responsible for the decrease in drainage operations.

Lands—Prices steady to strong, ranging from $75.00 to $125.00.

Report of Fair—Held at Humboldt, September 11th to 14th, inclusive. The average attendance and exhibits with the exception of the cattle department.

IDA.

RICHARD VARNER, IDA GROVE, NOVEMBER 17, 1911.

Corn—Fairly good crop.

Oats—Good.

Wheat—Good.

Barley—Good.

Millet—Good.

Sorghum—Very little raised.

Timothy—Poor.

Clover—Not a very good crop.

Prairie Hay—A short crop.

Potatoes—One-half a crop.

Vegetables—One-half a crop.

Apples—Good.

Other Fruits—Cherries, plums and grapes good.

Cattle—Several cars are now being fed for market.

Horses—Good prices and a good many raised.

Swine—The usual number being fed. Fine lot of spring pigs this year.

Sheep—Decreasing.

Poultry—This county has an abundant supply of chickens, geese and ducks.

Bees—Most farmers have from 2 to 10 hives of bees.

Drainage—None.

Other Industries—Flour mills and concrete stone factories doing good business.

Lands—Prices remain about stationary.

Report of Fair—No county fair in this county.

IOWA.

J. P. BOWLING, VICTOR, SEPTEMBER 20, 1911.

General Condition of Crops and Season—Season early and the outlook is good for a good crop.

Corn—Good in this section of the county. Out of the way of frost.

Oats—Good quality but small yield.

Wheat—Not much raised here.

Rye—Good.

Barley—Good.

Flax—Not any raised.

Buckwheat—Good.

Millet—None.

Sorghum—Good.

Timothy—Good but a small yield.

Clover—Good but a small yield.

Prairie Hay—Not much.

Potatoes—Poor crop.

Vegetables—Good.

Apples—Bumper crop.

Other Fruits—Splendid.

Cattle—Good.

Horses—Good.

Swine—Good.

Sheep—Good.

Poultry—Good.

Bees—Not many here.

Report of Fair—Held at Victor, August 15-17, inclusive. Weather and attendance good.

IOWA.

JAMES NICHOLS, WILLIAMSBURG, OCTOBER 23, 1911.

General Condition of Crops and Season—The forepart of the season was dry and hot, but during September and the first part of October we had an abundance of rain.

Corn—95% of an average crop.

Oats—80%.

Wheat—Spring wheat 50%. No winter wheat.

Rye—None raised.

Barley—None raised.

Flax—None raised.

Buckwheat—None raised.

Millet—None raised.

Sorghum—None raised.

Timothy—Hay went three-fourths of a ton per acre. The seed was very good and lots of the timothy was threshed on account of the high price of seed.

Clover—Very little this summer but since the fall rains it has started again.

Prairie Hay—Not any.

Other Grains and Grasses—Pastures were rather poor during the summer but the rains have helped them this fall.

Potatoes—Early ones almost a failure; late ones good.

Vegetables—A fair crop.

Apples—Abundant.

Other Fruits—Good.

Cattle—In fair condition.

Horses—In fair condition.

Swine—A great deal of disease. About one-fourth of the spring pigs have either died or been shipped to market.

Sheep—Very few raised but they are in good condition.

Poultry—Average crop.

Bees—Rather a poor year for bees.

Drainage—The land is pretty thoroughly drained.

Other Industries—We have three creameries close by but they did not do the average amount of business this summer.

Lands—Very good in this vicinity; not much changing hands.

Report of Fair—Held at Williamsburg. We were obliged to hold over one day on account of rain. Our exhibits were good but the attendance small. Races were declared off.

IOWA.

ALEX M'LENNAN, MARENGO, OCTOBER 21, 1911.

General Condition of Crops and Season—The quality of crops in general is fair. The quantity of the earlier crops was somewhat below the average. We had good spring weather and the ground was in excellent shape and condition for putting in crops.

Corn—About 95 per cent of a crop; excellent quality and heavy yield, with more than the average number of acres planted. The soil was in fine shape to retain the moisture and to withstand the summer drouth.

Oats—Crop somewhat short on account of the hot dry weather. The quality was good and the straw was fine. Probably would have had an average crop had it not been for the grass hoppers as they took about three-fourths of the crop in some fields. Average about 25 bushels.

Wheat—Not raised to any extent in this county. The few fields showed a good yield and the quality was good.

Rye—But very little grown; good yield and quality.

Barley—Not much grown.

Flax—None raised.

Buckwheat—Very little grown.

Millet—Very little grown.

Sorghum—Good quality; very little raised..

Timothy—The crop was a little light on account of the drouth but the quality was excellent. More cut for seed this year than ever before on account of the high price of seed, which was from $11.00 to $12.00 per cwt.

Clover—Not much harvested except for hay. The crop was lighter than the average on account of the drouth through the summer.

Prairie Hay—None in the county.

Other Grains and Grasses—The pastures at times were very short but none of them were seriously hurt by the hot dry weather.

Potatoes—The early ones were a light crop on account of the drouth but the late ones turned out heavier than an average crop.

Vegetables—About the average amount raised; good quality.

Apples—A very heavy crop; hundreds of bushels going to waste.

Other Fruits—Plums and cherries were a very heavy crop this year, better than for years. All kinds of berries were good.

Cattle—Conditions of herds improving every year and the tendency among even the renters is to breed but the very best. Aberdeen-Angus, Short-horns, Galloways and Herefords predominate.

Horses—None but the best are being raised here now, mostly heavy work horses and roadsters. Good demand but the price is not so high as last year on account of some horses being shipped in here from Dakota. There was a better showing of horses at our fair this year than usual.

Swine—Average pig crop; all well bred; quite a showing at the fair this year. Some farmers have lost their entire pure-bred herds through cholera.

Sheep—Not generally raised although the tendency to do so seems to be on the increase. The Amana Society have several flocks of several thousand each.

Poultry—Better showing at the fair this year than usual and the interest taken in poultry raising is on the increase.

Bees—But very few stands in the county.

Drainage—Considerable wet and low land is being reclaimed each year, both by machinery and hand tiling. Quite an extensive drainage tile ditch is being put in just now in a drainage district adjacent to Marengo and is being taxed to the adjoining farms and farms that are to be benefited.

Other Industries—Woolen and flour mills report a good business. A number of saw mills were in operation last winter and turned out considerable native lumber, mostly dimension stuff. Canning factories on the average did well. Creameries have done an exceptionally good business this year and the brick and tile factories have done a rushing business.

Lands—Possibly not as much building done this year as last. Most of our farms are pretty well improved. More improved methods of cultivation and more attention is being given to keeping the soil in a good state of fertility and more intensive farming practiced by the farmers each year. Lands range in price from $100 to $225 per acre. Some broken rough lands have sold as low as $65.00 per acre but there is not much of this.

Report of Fair—Held at Marengo on September 19-21, inclusive. The weather conditions were unfavorable, but nevertheless we had a fair attendance. The machinery exhibit was the largest ever on the grounds and the live stock exhibit was the best in years and more premiums were paid by the society.

JACKSON.

W. D. M'CAFFREY, MAQUOKETA, SEPTEMBER, 1911.

General Condition of Crops and Season—Good.

Corn—Very good crop.

Oats—Fair yield; good quality.

Wheat—Good; not very much sown.

Rye—Not much raised.

Barley—Very good.

Flax—None raised in this county.

Buckwheat—Not much raised.

Millet—Small acreage.

Sorghum—Small acreage.

Timothy—Small yield.

Clover—Small yield.

Prairie Hay—Not much in the county.

Other Grains and Grasses—Very little raised in this county.

Potatoes—Small yields.

Vegetables—Good.

Apples—A large yield.

Other Fruits—Large crop.

Cattle—Good.

Horses—Good many horses raised and of good quality.

Swine—Good quality and a good many raised.

Sheep—Not many raised.

Poultry—Good quality; raised extensively.

Bees—Very poor.

Drainage—Good natural drainage.

Other Industries—Two lime kilns and a button factory.

Lands—Increasing in value every year.

Report of Fair—Held at Maquoketa, September 5-8, inclusive. Had a large exhibit in every department. We had rainy weather but were able to have some very good racing.

JASPER.

F. E. MEREDITH, NEWTON, NOVEMBER 13, 1911.

General Condition of Crops and Season—Above the average. The lack of rainfall during the growing season cut short small grain and vegetables but the quality was good.

Corn—90% of a yield and 100% quality.

Oats—50% of a yield and 100% quality.

Wheat—75% of a yield and 80% quality.

Rye—Normal. Not much raised in this county.

Barley—50% of a yield and 90% quality.

Flax—Very little raised.

Buckwheat—Normal. Very little raised.

Millet—Normal. Very little raised.

Sorghum—Normal. Very little raised.

Timothy—50% of a yield; about 80% quality.

Clover—50% of a yield; about 90% quality.

Prairie Hay—Do not have any.

Potatoes—60% of a yield; about 100% quality.

Vegetables—85% of a yield; about 90% quality.

Apples—100% of a yield and 100% quality. This county never had more apples, nor of better quality.

Other Fruits—Great quantities of cherries, small crop of berries, peaches and pears. Most small fruit was badly dried up.

Cattle—About 75% of feeding cattle and about 75% stock cattle. Both are short.

Horses—About an average; prices a little off.

Swine—About an average; considerable cholera among them.

Sheep—About an average.

Poultry—Very good.

Bees—An average.

Drainage—This county is making surveys and preparations for about all of the South Skunk river bottoms are to be drained next year. About 21 miles will be drained at a cost of about $130,000 to $150,000.

Other Industries—About all of the factories of the county are located at Newton and they are all in a very prosperous condition. Some of them have been working at night and about all report a gain over last year.

Lands—Not many land sales made until fall, but more large farms have been sold this fall than ever before at high prices. Three farms of over 150 acres each have sold for $200.00 per acre and smaller farms have sold for from $125.00 to $175.00 per acre. Prices are from 10.00 to $25.00 higher.

Report of Fair—Held at Newton, August 21-24, inclusive. As a whole our 1911 fair was perhaps the best ever held. The weather was fine and the attendance about the largest we ever had. Our racing was good and well filled; cattle exhibit about an average; horses a little smaller; swine the largest ever had; sheep an average; women's departments well filled; vegetables rather small but good for the year. We will have about $600 left after expenses are paid.

JEFFERSON.

A. E. LABAGH, FAIRFIELD, NOVEMBER 13, 1911.

General Condition of Crops and Season—The general condition of crops is good despite the drouth this season.

Corn—Will average about one-half a crop; quality good.

Oats—Fine quality; average crop.

Wheat—Very little planted; averaged about 18 bushels per acre.

Rye—Practically none grown here.

Barley—None.

Flax—None.

Buckwheat—None grown.

Millet—None grown.

Sorghum—Acreage small; quality good.

Timothy—Very light crop owing to the dry seasons.

Clover—Same as timothy.

Prairie Hay—None grown here.

Potatoes—Light crop; too dry.

Vegetables—Plentiful and of good quality.

Apples—Large crop and of extra fine quality.

Cattle—In good condition and the usual number.

Horses—Same as cattle.

Swine—The usual number and in good condition.

Sheep—Same as swine.

Poultry—In good condition and the average number.

Bees—About 90% have died during the last season.

Drainage—There is no drainage work done in this county.

Report of Fair—None.

JOHNSON.

GEORGE A. HITCHCOCK, IOWA CITY, OCTOBER 12, 1911.

General Condition of Crops and Season—Good.

Corn—Very fine indeed. Made a good growth and was not hurt much by the dry weather.

Oats—Good quality; yield about one-half crop.

Wheat—The fall wheat was good both in quality and yield but the spring wheat was very poor.

Rye—Good quality; not much raised.

Barley—Not more than the average yield.

Flax—None grown.

Buckwheat—None.

Millet—Very little sown.

Sorghum—Not much grown in this county.

Timothy—Very light crop.

Clover—Not much lived through the winter but what did made a fair crop.

Prairie Hay—None to speak of.

Potatoes—Early ones not up to average yield. Late ones did not ripen so well but the yield was immense.

Vegetables—Late ones very fine.

Apples—We have not had such a yield for years.

Other Fruits—With the exception of peaches all kinds made a good yield of good quality.

Cattle—Fully the usual number.

Horses—Scarce and high prices.

Swine—The usual number of spring pigs. Not much sickness reported.

Sheep—Very few in this county but what we have are good.

Poultry—Quite an industry with the farmers. Most of them have good flocks.

Bees—About the usual number and they have put up a good deal of honey.

Other Industries—Progressing.

Lands—Prices high, ranging from $75 to $250 per acre.

Report of Fair—Held at Iowa City, August 29-September 1, inclusive. We had splendid weather and good attendance. Best fair we have had in years.

JONES.

L. W. RUSSELL, ANAMOSA, OCTOBER 21, 1911.

General Condition of Crops and Season—Early spring; very dry summer; excessive rains in the fall. Crops in general are good; above the average.

Corn—Very good; heavy yield; good quality.

Oats—Fair; heavy yield; poor quality on account of drouth.

Wheat—Small acreage; fair yield.

Rye—Good quality.

Barley—Small acreage; good quality.

Flax—Very little flax raised here.

Buckwheat—Good crop; small acreage.

Millet—Small acreage; quality good.

Sorghum—Very good; quality fine; heavy yield.

Timothy—Average yield; good quality.

Clover—Very little clover, due to winter kill and early drouth.

Prairie Hay—Very good crop; good quality.

Potatoes—Early ones light; late ones fine, heaviest crop in years.

Vegetables—Small vegetables good; abundant crop. Tomatoes fine quality; heavy yield. Cabbage, pumpkins, squash, etc., a bumper crop.

Apples—Bumper crop; heaviest in years, running as high as 22 bushels to the tree.

Other Fruits—Cherries fine, largest crop in years. Plums the same. All kinds of berries were abundant.

Cattle—Quality fine. Largest number of young calves seen in years.

Horses—Fine yield. Farmers are raising lots of young colts. Good outlook for winter sales.

Swine—Good; number of hogs above the average.

Sheep—Average number of sheep raised.

Poultry—Very good. Eggs are plenitful but prices are high.

Bees—Good crop; lots of honey of excellent quality.

Drainage—Natural drainage good; very little artificial drainage done in this vicinity.

Other Industries—Doing well.

Lands—Steadily increasing in value; average price now about $125.00 per acre.

Report of Fair—Held at Anamosa, August 22-26, inclusive. Weather perfect; large and enthusiastic crowd; exhibits fine.

JONES.

FRED W. KOOP, MONTICELLO, OCTOBER 16, 1911.

General Condition of Crops and Season—Extra good; forepart of season dry.

Corn—Better than average.

Oats—Good.

Wheat—Practically none raised.

Rye—Good.

Barley—Good.

Flax—None raised.

Buckwheat—Very little raised.

Millet—Good but very little raised.

Sorghum—Good.

Timothy—Light crop.

Clover—Light crop.

Prairie Hay—None.

Other Grains and Grasses—A few farmers have tried alfalfa with good results.

Potatoes—Early crop light; late crop good.

Vegetables—Good season.

Apples—Extra large crop.

Other Fruits—Exceptionally good.

Cattle—Plenty; good condition; prices good.

Horses—Plenty and in good condition. Demand not quite so good and prices some lower.

Swine—Plenty; no disease; prices good.

Sheep—Few raised; good condition.

Poultry—Chickens plentiful; turkeys scarce.

Bees—Light crop of honey.

Drainage—Sloughs practically all tiled.

Other Industries—Monticello Canning Company put up a big pack of sweet corn.

Lands—Raising in price but not much changing hands.

Report of Fair—Held at Monticello. August 28-September 1, inclusive. The weather was fine and the attendance above the average. All exhibits were good and attractions and amusements splendid. Over $1,000.00 in improvements were expended during the summer.

KEOKUK.

GEO. A. POFF, SEPTEMBER 25-28 1911.

General Condition of Crops and Season—The best in years. This locality has been greatly favored.

Corn—Fine; will average from 50 to 70 bushels per acre.

Oats—Medium yield; extra good quality.

Wheat—Good yield and splendid quality but not much raised.

Rye—None to speak of.

Barley—None to speak of.

Flax—None to speak of.

Buckwheat—None.

Millet—None.

Sorghum—Good but not much grown.

Timothy—Light crop but good.

Clover—Never has been so fine. Three heavy crops have been harvested.

Prairie Hay—None.

Other Grains and Grasses—Splendid.

Potatoes—Fair yield.

Vegetables—Fair yield.

Apples—Enormous crop. Many will go to waste as there is no market for them. Selling for 70c per cwt.

Other Fruits—Good.

Cattle—In splendid condition. Several large breeders here.

Horses—Many fine horses are raised here by breeders who are increasing their stock.

Swine—Many large breeders and many of the best breeds on exhibition at the fair.

Sheep—Not so many raised as there used to be.

Poultry—Quite an active interest taken in this industry and many fine chickens are raised.

Bees—Not many.

Drainage—Good and increasing.

Other Industries—The What Cheer Clay and Product Company are doing good business.

Lands—Values are still increasing.

Report of Fair—Held at What Cheer, September 25-28. It was cold and disagreeable on our second day and the attendance was not as large as usual but Wednesday was a bumper day, fully 8,000 being present. We were completely rained out on Thursday. All departments were crowded, our stock show being especially good. Our racing was splendid.

KOSSUTH.

T. P. HARRINGTON, ALGONA, OCTOBER 24, 1911.

General Condition of Crops and Season—Season and crops were ideal and fully up to the best ever seen in the county up to June 15th. The lack of rainfall began to tell upon all crops at about that time and the hot wind following this with continued dry weather damaged all crops considerably.

Corn—Will average 15 to 30 bushels per acre. Quality was quite good and there will be no difficulty in securing an abundance of good seed.

Oats—From 5 to 30 bushels per acre and the quality was below weight but bright and clean.

Wheat—Very good, 15 to 30 bushels per acre. Winter wheat, which was raised to some extent this year, largely as an experiment, yielded better than spring wheat and more is being sown this fall.

Rye—Not raised as a staple crop here but what we had yielded well.

Barley—Yielded about the same as oats, but being earlier the quality was better.

Flax—Very poor. Most of what was sown was on tiled and freshly broken land and was light, mostly a failure.

Buckwheat—Raised in very small quantities. Cannot estimate.

Millet—Very little sown.

Sorghum—Very little sown.

Timothy—Light, but crop harvested in good quality.

Clover—Light crop but good quality.

Prairie Hay—Not much left in the county; lighter than usual. Crop was saved in good condition.

Potatoes—Early ones were very poor but late rains have developed the late crop and there will be sufficient for home consumption; good quality.

Vegetables—Early ones a very light crop. The later vegetables developed well.

Apples—Rather small in size but an abundant crop and remarkably free from worms.

Other Fruits—Small berries rather scarce. All native nuts were abundant but small in size.

Cattle—The usual lot of young stock. Owing to short pastures they fared poorly during midsummer but late rains have restored the pastures and fall feed is abundant. There is a marked tendency toward dairying and dairy cattle.

Horses—Still high in price and farmers are breeding strongly. The quality is improving but the high price affords a great temptation to sell off the best horses.

Swine—More are being raised than during recent years and the quality is improving.

Sheep—Not extensively raised and no marked change in the tendency toward sheep.

Poultry—Becoming very popular and more attention is being paid to pure bred flocks.

Bees—Very few kept.

Drainage—I believe more drainage has been done in this county in the last few years than in any county in the state. 20,000 acres of low wet swamp land has been transformed into tillable land by drainage during the last six years and the work is only about 25% done. It is being done as fast as men and means to do it can be secured.

Lands—Land values are steadily advancing. They are still low as compared with adjoining states and counties.

Report of Fair—Held at Algona, September 19-22 inclusive. We broke all previous records in receipts and attendance. The exhibits were very good although the stock exhibit was reduced by the shortage of pasture.

LEE.

CHRIS HAFFNER, DONNELLSON, OCTOBER 30, 1911.

General Condition of Crops and Season—Dryest season ever known. Crops were fairly good during the spring and summer months considering the season but the corn crop was damaged by excessive rains in the fall.

Corn—Poor crop on account of wet fall.

Oats—Quality good; light yield.

Wheat—Quality good; fair yield.

Rye—Very little raised; good yield.

Barley—None raised.

Flax—None.

Buckwheat—None.

Millet—Very little.

Sorghum—Good crop.

Timothy—Light crop.

Clover—Fair.

Prairie Hay—None.

Potatoes—Almost a total failure.

Vegetables—Fair to good crop.

Apples—Big crop; good quality.

Other Fruits—Good.

Cattle—Short-horns and Polled Angus predominate.

Horses—Quite an interest taken in horses, Percherons taking the lead.

Swine—Duroc Jerseys and Poland Chinas predominate.

Sheep—Shropshire and Delaines are in the lead.

Poultry—A great deal of interest taken in poultry raising and all breeds are represented.

Bees—A very few kept.

Drainage—More attention is being paid to tiling.

Lands—Sells from $125 to $175 per acre.

Report of Fair—Fair at Donnellson was to be held on September 6-8, but on account of excessive rains had to be declared off. The fair meeting was a total failure.

LEE.

JOHN WALLJASPER, WEST POINT, OCTOBER, 1911.

General Condition of Crops and Season—The general condition of crops is somewhat below the average as the unusual dry season cut the pastures short and also made a deficiency in the hay crop. The drouth began in May and lasted until the 5th of September, after which time rain has been very plentiful; in fact too much of it.

Corn—The corn withstood the drouth in good shape and is turning out about two-thirds of a yield. Many farmers cut up their corn before the rains set in and the corn is getting musty.

Oats—A fair crop; good weight and quality.

Wheat—Good quality; fair crop.

Rye—Not much sown.

Barley—Hardly any sown.

Flax—Very little sown; not worth mentioning.

Buckwheat—Very little sown; good prospect.

Millet—Considerable sown; doing well.

Sorghum—Suffered from drouth; quality good.

Timothy—Suffered from drouth; about two-fifths of a crop.

Clover—Suffered from drouth; about one-half crop.

Prairie Hay—None.

Other Grains and Grasses—Not much raised in this district.

Potatoes—Almost a failure; although smaller in size than in former years they are of good quality.

Vegetables—Not many turnips sown on account of drouth. Cabbage and other vegetables are doing well.

Apples—A bumper crop; quality fair.

Other Fruits—Peaches a good fair crop; plums and cherries good; gooseberries and currants good; blackberries dried up. A fine grape crop.

Cattle—On account of the drouth a lot of stock cattle were shipped away and sold, making the supply much smaller than in former years.

Horses—Prices lower than in former years. The over supply is being bought by shippers. A good paying industry for the farmer.

Swine—Doing well. But very little disease among the swine.

Sheep—On account of the low price of wool the sheep herds are smaller than last year; no disease.

Poultry—Have done well this season. Poultry raising is one of the mainstays of the farmer.

Bees—Very little attention paid to bees.

Drainage—The low lands around Burlington are being drained and the flat lands on the prairie are being tiled. Owing to the high price of land now every available acre of ground is being utilized.

Other Industries—Making good progress.

Lands—Selling from $40.00 to $250.00 per acre and is eagerly sought by the investing public.

Report of Fair—The fair was held at West Point, on September 26-29, inclusive. We had a rainy week and the races were declared off. The stock exhibits were fair but the colt show was exceptionally good. Taking it all in all we did as well, considering the weather, as any fair around us held during the month of September.

LINN.

C. A. PATTEN, MARION, OCTOBER 26, 1911.

General Condition of Crops and Season—Good.

Corn—125%.

Oats—80%.

Wheat—110%.

Rye—100%.

Barley—110%.

Buckwheat—100%.

Sorghum—110%.

Timothy—125%.

Clover—85%.

Other Grains and Grass—100%.

Potatoes—Early ones 70%; late ones 125%.

Vegetables—125%.

Apples—150%.

Other Fruits—125%.

Cattle—90%.

Horses—110%.

Swine—110%.

Sheep—100%.

Poultry—110%.

Bees—90%.

Drainage—100%.

Other Industries—90%.

Lands—125%.

Report of Fair—Held at Marion, September 26-29 inclusive.

LINN.

E. E. HENDERSON, CENTRAL CITY, SEPTEMBER 27, 1911.

General Condition of Crops and Season—No frost at this writing and all crops matured. The season was dry in the beginning but late rains have given the pastures and ground plenty of moisture.

Corn—The best crop in years; all matured and of splendid quality.

Oats—Yielded from 15 to 40 bushels. Excessive rains after the oats were in the shock affected the quality and made a large percent of it inferior.

Wheat—Small acreage grown; not up to the usual quality and yield.

Rye—Very little grown this year; poor quality; yield 12 to 25 bushels per acre.

Barley—Not as much as usual grown; poor yield and not up to standard quality.

Flax—None grown.

Buckwheat—Very little grown.

Millet—Fair, very little grown this season.

Timothy—Good quality; light yield.

Clover—Very little clover was grown this season. The dry weather of last fall killed the greater part of the clover in this section.

Prairie Hay—Light; very little raised.

Potatoes—Early ones nearly a failure but late ones will be of good quality and a fair crop.

Apples—Large crop; best in years.

Other Fruits—Strawberries lighter crop than usual; other berries a good fair crop.

Cattle—There will be about the usual number on feed. This is a good dairy county and milk cows are in good demand and scarce. Feeders in good demand.

Horses—Plentiful but in good demand. High grade of draft horses raised principally.

Swine—About the usual number raised; no disease reported in the county.

Sheep—A large number raised and in good demand.

Poultry—Getting to be one of the leading industries of the county.

Drainage—About the usual amount of tile drainage being done; quite a number are using cement tile manufactured in the county. All the clay tile being used this year is shipped in from outside the county.

Lands—In good demand; selling from $80 to $140 per acre.

Report of Fair—Held at Central City on September 5th to 8th, inclusive. We had a rainy week. Exhibits in all departments except the swine department were above the average. Much interest was manifested and the attendance surprisingly large considering the weather. The farmers are taking much interest in the success of this fair as it has been conducted several years without races and has been very successful. This is the first time for years that we have come out behind financially.

LOUISA.

J. B. SMITH, COLUMBUS JUNCTION, SEPTEMBER 25, 1911.

General Condition of Crops and Season—The season was remarkable for the excessive heat throughout the growing season. The rainfall was but little below the average. The general average of crops is good.

Corn—A good average. Some farmers placing it at 95 to 100 per cent, or 40 to 45 bushels per acre, mostly safe from frost.

Oats—Uneven; some fields a good average, others below; good quality.

Wheat—Not extensively raised but good quality.

Rye—Quality "A-1". Yield fair; acreage limited.

Barley—But little grown except with oats and used locally for seed.

Flax—None grown.

Buckwheat—But little sown; weather unfavorable.

Millet—Acreage limited; quality "A-1".

Sorghum—About an average acreage; quality good.

Timothy—Short growth on account of heat and lack of moisture in April and May.

Clover—Same condition as timothy.

Prairie Hay—But little grown; quality good.

Other Grains and Grasses—Cow peas are being tried on sandy lands.

Potatoes—Some report favorable crops but in general the crop is short as to yield. Mostly early varieties.

Vegetables—The intense heat during the growing season was unfavorable for early vegetables.

Apples—The best crop, both in quantity and quality, in the history of the county.

Other Fruits—Cherries were small and berries were nearly a failure on account of climatic conditions.

Cattle—The condition is good but stock on hand is smaller than usual.

Horses—In good condition; supply ample. Prices show a reduction.

Swine—Generally healthy; good quality and the usual number.

Sheep—But few are kept. In first class condition.

Poultry—In good condition; supply and production good.

Bees—In fair condition. The supply of honey will not be large.

Drainage—This county has just finished some very elaborate and costly drainage projects.

Other Industries—Columbus Junction has a pearl button factory that is doing a good business, Wapello has a canning factory with an immense output of sweet corn and in general all industries are progressing.

Report of Fair—Held at Columbus Junction Sept. 6-8, 1911. The attendance was good although was somewhat reduced by the threatening weather. The exhibits of stock were good and other exhibits fair. A small deficit financially.

LUCAS.

J. C. Williamson, Chariton, December 4, 1911.

General Condition of Crops and Season—We experienced one of the most severe drouths this season that we have ever known.

Corn—Will make about 60% of an average crop.

Oats—About an average crop; extra fine quality.

Wheat—Extra good; good quality.

Rye—None.

Barley—None.

Flax—None.

Buckwheat—None.

Millet—Very little raised. Not very good.

Sorghum—A little planted and it made a good crop.

Timothy—Hay very light, making from one-half to a ton per acre. Seed was good and almost all of the timothy was threshed for seed.

Clover—A very light crop. no second crop.

Prairie Hay—Very little prairie hay.

Potatoes—Almost a total failure except the very earliest ones.

Vegetables—Not very good; too dry.

Apples—A good yield and good quality.

Other Fruits—Fair crop.

Cattle—Feeding cattle almost all shipped out. A fair demand for dairy cows.

Horses—Selling for a great deal less than they were a year ago. We have plenty.

Swine—Quite a number on hand but not many being fed on account of the low prices. There are a few cases of cholera in the county.

Sheep—A good many small flocks in the county but they are not in very great demand.

Poultry—Fair year for poultry. Good prices have been realized for both eggs and poultry.

Bees—Too dry for bees.

Lands—Farms are not selling very fast but they bring good prices. Quite a number being sold at auction.

LYON.

Chas. W. Bradley, Rock Rapids, Oct. 24, 1911.

General Condition of Crops and Season—Season very dry until July, after that time we had plenty of rain. Small grain crop very light; corn good; grass and pasture good.

Corn—Corn acreage 25%. Average yield 30 bushels per acre; good quality.

Oats—Very short on account of early drouth. Average yield, about 15 bushels per acre; quality good.

Wheat—Very small acreage; average yield 20 bushels per acre; good quality.

Rye—Little, if any, grown.

Barley—Acreage 15%. Average yield 10 bushels per acre; extra good quality.

Flax—Not grown.

Buckwheat—No acreage.

Millet—Small acreage; good yield.

Sorghum—None raised.

Timothy—Very light on account of dry season.

Clover—Very light on account of dry season.

Prairie Hay—Very light, owing to dry season.

Other Grains and Grasses—None.

Potatoes—Heavy acreage; quality first class; average 150 bushels per acre.

Vegetables—All varieties first class; both as to yield and quality.

Apples—Good quality; heavy yield.

Other Fruits—All kinds a very heavy crop; good quality.

Cattle—First class condition; large numbers raised.

Horses—First class condition; large numbers raised.

Swine—First class condition and a great many raised.

Sheep—A large number and they are in first class condition.

Poultry—A great many and in good condition.

Bees—In very bad condition on account of the early dry weather.

Drainage—Natural drainage good. Land gently rolling and there is little, if any, artificial drainage.

Other Industries—Creameries all doing flourishing business. Other small manufacturing establishments doing a good business.

Lands—Range in price from $100 to $200 per acre. Quality the very best.

Report of Fair—Held at Rock Rapids, August 29—September 1st inclusive. A very successful fair.

MADISON.

A. L. Foster, Winterset, Iowa.

General Condition of Crops and Season—Crops are well advanced, owing to the extreme drouth and the excessive heat which had a tendency to ripen the early planted crops. The season has been one of extremes.

Corn—Will make from 15 to 50 bushels per acre; quality medium. Quite a large percent being cut for fodder, which is exceptionally good.

Oats—Quality fair to medium; yield from 20 to 50 bushels per acre.

Wheat—Good quality, especially fall wheat, which was extra good. Yield from 15 to 30 bushels per acre.

Rye—Not much sown; quality good.

Barley—Yield from 20 to 40 bushels; quality good.

Flax—None grown.

Buckwheat—None grown, owing to the extreme dry season.

Millet—Not much sown on account of the drouth.

Sorghum—Not much grown but what few acres there were was good quality and will make 40 to 75 gallons per acre.

Timothy—One-half to one ton of hay per acre; quality of seed was fine but only a small amount of timothy was cut for seed; light yield.

Clover—Fair yield but the quality was as good as an ever harvested. On account of the dry weather there will not be much clover seed as there was no second growth.

Prairie Hay—Quality good; not very much in the county.

Potatoes—Almost a failure on account of the bugs, grasshoppers and drouth.

Vegetables—Not many grown. Only in localities where there were local showers.

Apples—Exceptionally large crop and better quality than usual. Winter varieties are free from worms and are well matured.

Other Fruits—Peaches good and plentiful; plums abundant; raspberries and blackberries were injured by the drouth.

Cattle—There is a shortage of cattle and they are not in very good condition, owing to the short pastures. The farmers have had to feed hay and corn fodder for the past two months.

Horses—Seem to be in good demand at fair prices. The farmers are raising more than usual.

Swine—The average number but they are marketed as rapidly as they can be fatted on account of the high price of corn.

Sheep—Quite a number of sheep are kept in the county and they seem to be doing remarkably well.

Poultry—About the usual number. Turkeys have done splendidly.

Bees—The season was entirely too dry for bees.

Drainage—There has been considerable tile put in this season.

Other Industries—There has not been as much building done this year as last. More cement is being used for building than before.

Lands—Not so much land changing hands as last year.

Report of Fair—Held at Winterset on Sept. 12-14th inclusive. The exhibits were good but not a very large showing in some departments. On the whole we had an average fair although the attendance was smaller than usual on account of threatening weather.

MAHASKA.

C. F. MOMYER, NEW SHARON, SEPT. 22, 1911.

General Condition of Crops and Season—Season was dry; crops suffered from the drouth.

Corn—Large acreage; good quality.

Oats—Poor yield, about one-half a crop; good quality.

Wheat—Spring wheat poor; fall wheat good quality; one-half crop.

Rye—Small acreage; good quality and yield.

Barley—None.

Flax—None.

Buckwheat—None.

Millet—None.

Sorghum—Good.

Timothy—Very light crop; high price.

Clover—Good.

Prairie Hay—None.

Potatoes—Very light crop.

Vegetables—Good.

Apples—Excellent.

Other Fruits—Fine.

Cattle—Very few cattle; stockers in good demand.

Horses—Very good; prices high.

Swine—Heavy stock of pigs.

Sheep—Not many raised; very few being fed.

Poultry—Abundant.

Bees—None.

Drainage—Very little tiling.

Other Industries—None.

Lands—High and going higher.

Report of Fair—Held at New Sharon Sept. 18-21 inclusive. Fair weather; average attendance; excellent races and good attractions.

MARION.

CHAS. PORTER, PELLA, OCTOBER 30, 1911.

General Condition of Crops and Season—Although the greater part of the season was very dry the crops in general are up to the average of the past five years.

Corn—Acreage increased on account of clover being winter killed. Low and flat lands made good corn, averaging about 40 bushels and of good quality.

Oats—About the normal acreage; good quality; average yield 30 bushels per acre. The straw in general is of good quality.

Wheat—Increased acreage of winter wheat and decreased acreage of spring wheat. Quality of winter wheat good; spring wheat fair.

Rye—Not much grown; some yielding 22 bushels and some not over 12 bushels per acre.

Barley—None sown.

Flax—None sown.

Buckwheat—None sown.

Millet—Some sown with good results for hay.

Sorghum—Increased acreage. Crop yielding about 125 gallons of molasses and from 12 to 25 bushels of threshed seed per acre. A number of farmers sowing cane seed for fodder with good results.

Timothy—Crop short, average less than one ton per acre. Quality of hay excellent.

Clover—But few fields wintered through last season. First crop not heavy; second crop fair.

Prairie Hay—None.

Potatoes—Early ones one-half crop; late ones a good yield and good quality.

Vegetables—Early ones were good; shortage in the summer; late ones very good.

Apples—Excellent quality and the largest crop in the last ten years.

Other Fruits—Pears were fine; too dry for the berry crop. Not much damage from insects or hail.

Cattle—The high grade beef breed predominates. Not as many dairy breeds being kept as would be profitable.

Horses—A marked improvement in draft horses. A great many of the good large type being shipped to eastern markets. The price for aged horses is not so high this year as last, but young colts bring good prices.

Swine—Better swine being bred. A good lot of spring pigs and no disease reported.

Sheep—The coarse wool mutton breed predominates. A number of farmers have good flocks.

Poultry—Has always been one of our greatest industries.

Bees—The season too dry for a good output of honey; hardly enough to winter the bees.

Drainage—Progressing.

Other Industries—All seem to be doing a good business.

Lands—But little changing hands but an increase in price over last year. Well improved farms selling as high as $200.00 per acre.

Report of Fair—Held October 3-6 inclusive at Pella. A greater interest taken by exhibitors than ever before and we had a grand, good show in all departments. However, we had four days of rainy weather and this cut down the attendance. We had racing every day and our attractions were good. We will pay all premiums.

MARSHALL.

W. M. Clark, Marshalltown, October 9, 1911.

General Condition of Crops and Season—Good, with the exception of hay.

Corn—In fine shape. On July 1st the growth was far ahead of ordinary years. It has matured in good shape and we will have a full crop.

Oats—Good.

Wheat—Winter wheat a good yield and of good quality; spring wheat fair.

Rye—None raised.

Barley—But little raised but what we had was good.

Flax—None raised.

Buckwheat—Not enough raised to report on.

Millet—Small acreage but a good crop.

Sorghum—None raised for commercial purposes.

Timothy—Not an average crop on account of a light stand; quality good.

Clover—Newly seeded clover was very light, badly winter killed. Some fields were plowed up without attempting to cut the crop.

Prairie Hay—None.

Other Grains and Grasses—A fair crop.

Potatoes—Early potatoes very light crop; the late ones made an average yield of good quality.

Vegetables—All very fine.

Apples—An abundance of all varieties and of fine quality.

Other Fruits—Plums and cherries in abundance; grapes fine; very few peaches; light crop of berries.

Cattle—In good condition and farmers are raising more pure-bred cattle than ever before.

Horses—A large number of imported horses are being brought into the county and all draft breeds are more numerous than five years ago. Harness horses are being improved and fine teams can be found in nearly every farmer's barn.

Swine—More numerous than a year ago. 800 were shown at the county fair this year.

Sheep—But few in the county but they prove profitable to the farmers.

Poultry—One of the leading industries and on the increase every year.

Bees—But few kept; good results this year.

Drainage—Some drains being put in on low lands with good results.

Lands—Selling from $125 to $225 per acre. The demand is just as good as the day when it could be had for $100.00 per acre.

Report of Fair—Held at Marshalltown on September 11-16 inclusive. We had one rainy day but our attendance and receipts were ahead of any former year. The exhibits of horses and swine were exceptionally large and other exhibits about as in former years.

MARSHALL.

H. M. WEEKS, RHODES, OCTOBER 10, 1911.

General Condition of Crops and Season—The season opened favorably and crops were put in the ground in good time. However, the summer drouth made the pastures short; made a light hay crop and did damage to all field crops.

Corn—In the western part of Story county the rains came in time to bring out a fair crop, probably 90% of an average. The northern part of Jasper and most of Marshall counties was considerably damaged by the drouth, probably 80% of an average crop.

Oats—Harvesting weather was favorable and the crop was cut and threshed in good condition. The quality was good and the yield from 20 to 25 bushels per acre.

Wheat—Spring wheat is not extensively raised and was a light crop; from 10 to 15 bushels; good quality. More winter wheat is grown every year and the crop this season yielded from 30 to 35 bushels of good quality.

Rye—None raised to speak of.

Barley—Same as rye.

Buckwheat—None.

Flax—None.

Millet—But little grown here.

Sorghum—None.

Timothy—Very light crop, less than a ton per acre. The crop was secured in fine shape; quality good.

Clover—Much of last year's seeding was killed in the winter and the crop was light. Some good yields of seed from the first crop are reported. The second crop did not amount to anything on account of the drouth.

Prairie Hay—No wild hay except in sloughs.

Other Grains and Grasses—Some farmers are experimenting with alfalfa with some success.

Potatoes—Early ones almost a failure; late ones made from 50 to 75% of an average crop.

Vegetables—Generally a light yield but of excellent quality.

Apples—A fine crop and of superior quality.

Other Fruits—Peaches a failure; pears fairly good; grapes good; all small fruits a light crop.

Cattle—Stock will go into winter in good condition. Short-horns and Herefords predominate. No disease. More attention is being paid to buying and feeding than to dairying.

Horses—Marshall, Jasper and Story counties are all noted for fine horses. Special attention is given to heavy draft breeds. No disease among the horses in this section. Young stock doing well and prices are good for good animals.

Swine—A leading and profitable industry; good lot of pigs and no disease. Chester White, Poland China and Duroc Jerseys the leading breeds.

Sheep—Only kept in small flocks but they are of good breeding. This industry is growing in this section.

Poultry—One business man of Rhodes has done a business since January 1, 1911 in eggs and poultry amounting to $52,000. 25 cars of eggs and 4 cars of live poultry have been shipped from Rhodes since January 1, 1911. This evidences the importance of this industry.

..*Bees*—The past two winters have been fatal to bee keeping; but few are kept.

Drainage—Public and private enterprise has done much in this line of work for several years. Most of the swamp land in this district has been reclaimed.

Other Industries—A very successful Farmers' Creamery at State Center. We also have successful cement plants in this district.

Lands—High in price. Land with fairly good improvements selling from $125 to $175 per acre.

Report of Fair—Our fair was held at Rhodes September 19-22, 1911, and was a success in all respects. The weather was good; attendance good; very good attractions; fine exhibits, especially horses and swine.

MILLS.

I. J. SWAIN, MALVERN, SEPTEMBER 28, 1911.

General Condition of Crops and Season—The season opened under the most pleasing auspices, the soil was in prime condition for seeding at least two weeks earlier than usual. The growth of crops was entirely satisfactory up until the first of June, at which time drouth set in and it prevails at this time.

Corn—Germination perfect, a magnificent stand but the drouth during the summer months has damaged the crop. There will probably be a yield of from 25 to 40 bushels per acre.

Oats—Quality excellent; yield below the average, probably 20 to 35 bushels per acre.

Wheat—Yield somewhat reduced by the drouth; quality good. Fall wheat yields 30 to 40 bushels and spring wheat about 10 to 20.

Rye—Injured by drouth; quality good; yield from 20 to 40 bushels.

Barley—Very little sown.

Flax—None grown.

Buckwheat—None grown.

Millet—Very little sown.

Sorghum—None grown.

Timothy—Very light crop; yield about one-half ton per acre. A large acreage was plowed up for corn fields.

Clover—Fair yield; excellent quality. Second crop in prime condition, yielding one and one-half to two tons per acre.

Prairie Hay—Very light yield, probably one to one and one-half tons.

Potatoes—Practically a failure.

Vegetables—Late yield.

Apples—Prospects are good for a fair crop of excellent quality.

Other Fruits—Medium crop of good quality.

Cattle—Not in the average flesh on account of short pastures; no disease and a marked improvement in breeding. We have some very fine herds in the county.

Horses—Increased attention given to the improvement in breeding of drafters and roadsters. No disease reported.

Swine—The dry pastures and high price of corn has been against breeders, and hogs are not in the usual flesh. No disease.

Sheep—Very few raised in the county.

Poultry—This industry is receiving increased attention. Many fine flocks are to be found in the county.

Drainage—Much interest is being awakened in the draining of our lands. Some extensive projects having been carried forward with most satisfactory results.

Lands—Prices still advancing. Good farms are selling at $150.00 to $200.00 per acre.

Report of Fair—Held at Malvern August 8-11 inclusive, and was attended by the largest number of visitors in the history of the fair. The exhibits were fair in all departments and the racing program was good and well conducted. The increased attendance is credited to the speed program.

MITCHELL.

CARL H. SPAANUM, OSAGE, OCTOBER 17, 1911.

General Condition of Crops and Season—Generally fair; hay crop rather light.

Corn—Average crop.

Oats—About 40 bushels per acre.

Wheat—Generally good.

Timothy—Good crop.

Prairie Hay—Very light.

Potatoes—Early ones very light; late ones good.

Vegetables—Good.

Apples—Large crop.

Other Fruits—Good.

Report of Fair—Held Sept. 26-29 inclusive. Fair crowd; good exhibits.

MONONA.

GEO. O. HOLBROOK, ONAWA, OCTOBER 9, 1911.

General Condition of Crops and Season—Fair. Some localities slightly damaged by drouth.

Corn—Average yield.

Oats—Light.

Wheat—Winter, extra good; spring varieties light on account of drouth.

Rye—None raised.

Barley—None raised.

Flax—None raised.

Buckwheat—None.

Millet—None.

Sorghum—None.

Timothy—Yield hurt by drouth.

Clover—Yield hurt by drouth.

Prairie Hay—Very light crop; less than half.

Potatoes—Fair yield of late potatoes.

Apples—Good yield.

Other Fruits—Fair.

Cattle—Only small lots, no feeding.

Swine—Good stock of spring pigs; some disease.

Sheep—None.

Poultry—Good; no disease.

Drainage—None needed this year.

Lands—Not much change of ownership; good prices.

Report of Fair—Held at Onawa, September 12-15 inclusive. More interest shown in the fair this year than ever before.

MONROE.

LOREN PERRIN, ALBIA, OCTOBER 25, 1911.

General Condition of Crops and Season—Crops fair; season dry.

Corn—Average 28 bushels per acre.

Oats—Average 35 bushels per acre.

Wheat—Average 16 bushels per acre.

Rye—None.

Barley—None.

Flax—None.

Buckwheat—None.

Millet—None.

Sorghum—None.

Timothy—Average one-third ton per acre.

Clover—Average two-thirds ton per acre.

Prairie Hay—None.

Other Grains and Grasses—None.

Potatoes—Very poor; small yield.

Vegetables—Poor.

Apples—Exceptionally good.

Other Fruits—None.

Drainage—None.

Report of Fair—Held at Albia, Sept. 26-29 inclusive. Rainy week. The association will lose in the neighborhood of $350.00.

MONTGOMERY.

M. H. RATHBONE, RED OAK, OCT. 31, 1911.

Corn—About fifty per cent of a normal crop; quality not up to the average.

Oats—About thirty per cent of a normal crop; quality good.

Wheat—Full average crop and very nice quality.

Barley—Full average crop; fair quality.

Flax—None raised here.

Buckwheat—None raised here.

Millet—Practically none raised here.

Sorghum—Practically none raised here.

Timothy—About fifty per cent of an average crop; quality good.

Clover—About fifty per cent of an average crop; quality good.

Prairie Hay—About fifty per cent of an average crop; quality good.

Potatoes—About 40% of an average crop; poor quality.

Vegetables—About 50 per cent of a crop; good quality up to June 1st.

Apples—Very large yield; selling for 50c bushel.

Other Fruits—None to speak of.

Cattle—About seventy-five per cent of the usual number on account of short pastures after July 1st. Not more than twenty-five per cent will be fed this winter.

Horses—Good prices and good class af horses. Roadsters and heavy draft horses are selling for from $100 to $225.

Swine—Some cholera in the western part of the county but lots of pigs are raised. More Duroc Jerseys than any other breed.

Sheep—None.

Poultry—Lots of poultry; prices good.

Bees—Very few but they have done well.

Lands—Selling for from $125 to $200 per acre. Not as much change in ownership in 1911 as usual but farms are better improved than ever before. Many farmers now have their own lighting and heating plants.

Report of Fair—No fair held this season on account of drouth.

MUSCATINE.

W. H. SHIPMAN, WEST LIBERTY, OCTOBER 27, 1911.

General Condition of Crops and Season—The early season was not very satisfactory but late rains have improved the crops. On the whole the year will be very good.

Corn—Average acreage. The early planting is not up to the average but the late planting is much better. We will, therefore, have a good average crop.

Oats—Good crop and good quality at the time of harvest. The rains damaged the late threshing.

Wheat—Small acreage; quality and yield good.

Rye—Very little raised.

Barley—Very little raised.

Flax—None raised.

Buckwheat—None raised.

Millet—Good acreage; late rains making it a good crop.

Sorghum—Good crop in some localities.

Timothy—Yield light; quality first class. Where threshed the seed was very profitable.

Clover—Light yield; badly winter killed.

Prairie Hay—None in this section.

Other Grains and Grasses—Blue grass was short during the summer months but the fall rains have made good pastures.

Potatoes—Early crop a failure; late ones very good.

Vegetables—An average crop.

Apples—A heavy crop; fine quality; many carloads shipped.

Other Fruits—Good crop of small fruit; no peaches or plums.

Cattle—Not so many cattle fed as last year. Much interest in the dairy breeds.

Horses—Good demand for good horses and all selling for good prices.

Swine—Some disease in part of the district. Good stock of pigs.

Sheep—Nice lot of spring lambs and much interest taken in them.

Poultry—Turkeys scarce but chickens are plentiful.

Bees—Honey crop short.

Drainage—Some tiling; also some county ditching.

Other Industries—Doing a good business

Lands—Very few farms changing hands. Prices remain at a high figure.

Report of Fair—Held at West Liberty August 21-24 inclusive, and was a success in every way. Exhibits were especially good.

MUSCATINE.

H. H. JOHNSON, WILTON JUNCTION, OCTOBER 10, 1911.

General Condition of Crops and Season—Good crops. Season dry in June and July but plenty of rain from August 1st to October 10th.

Corn—Good; average about 50 bushels per acre; good quality.

Oats—Average 25 bushels per acre; quality good.

Wheat—Average 22 bushels per acre; good quality.

Rye—15 bushels per acre; quality good.

Barley—Average 10 to 15 bushels; poor crop.

Flax—None.

Millet—Good; heavy crop.

Sorghum—Good; above the average.

Timothy—Very light; one-half to one ton per acre.

Clover—Light.

Prairie Hay—None.

Other Grains and Grasses—None.

Potatoes—Early crop light; late crop exceptionally good.

Vegetables—Good.

Apples—Apples plentiful; largest crop in twenty years.

Other Fruits—Plentiful.

Cattle—Average number.

Horses—Plentiful, especially draft animals.

Swine—Large number. Dying rapidly from disease in some localities.

Sheep—Plentiful.

Poultry—More poultry in vicinity than for years.

Bees—Above the average; good yield of honey.

Drainage—Good.

Other Industries—Flourishing.

Lands—Average in price from $150 to $200 per acre. Not much changing hands at present.

O'BRIEN.

GEO. H. GARDNER, SHELDON, OCTOBER 9, 1911.

General Condition of Crops and Season—Less than one-half crop of small grain and hay not more than 20% of a crop. The first part of the season was dry but we have had normal rainfall during August and September.

Corn—75% of a crop; good quality; well matured.

Oats—40% of a crop; quality good.

Wheat—Winter wheat 75%; good quality. Spring wheat 60%; good quality.

Barley—25% of a crop; good color and weight.

Millet—75% of a crop.

Timothy—15% of a crop.

Clover—20% of a crop.

Prairie Hay—20% of a crop.

Potatoes—Early ones made 25% of an average crop; late ones 95%. Good quality.

Vegetables—Fair; late varieties good.

Apples—100%.

Other Fruits—Berries fair; plums, etc., good.

Cattle—Good condition.

Horses—Good condition; slight decrease in value.

Swine—Good average lot of spring pigs. No cholera; decline in prices.

Sheep—Good condition; decrease in number.

Poultry—Fair to good.

Drainage—Not much tiling done this season.

Lands—Slight increase in values, ranging from $100 to $165 per acre.

Report of Fair—Fair was held at Sheldon August 22-25, 1911. Attendance about 95% of an average attendance; exhibits in all departments were above normal; races were good and all classes fairly well filled.

O'BRIEN.

J. B. MURPHY, SUTHERLAND, OCTOBER 14, 1911.

General Condition of Crops and Season—Crops poor and season dry.

Corn—One-half crop; 15 to 40 bushels per acre.

Oats—One-third of a crop; 6 to 25 bushels per acre.

Wheat—Very little raised; a fair crop.

Barley—Average 8 to 12 bushels per acre.

Flax—None to speak of.

Buckwheat—None.

Millet—None.

Sorghum—None.

Timothy—Almost a total failure.

Clover—One-half ton per acre.

Prairie Hay—None.

Potatoes—Early ones a failure; late ones good.

Vegetables—Poor.

Apples—Above the average crop.

Other Fruits—Good.

Cattle—Thin and below the average number.

Horses—About the average number. Prices not so high as a year ago.

Swine—Good crop; above the average number. The old hogs nearly all marketed.

Sheep—About the average number.

Poultry—Above the average number.

Bees—Almost a failure.

Other Industries—Curtailed this year to a great extent.

Lands—Not changing hands.

Report of Fair—Held at Sutherland, September 6th to 8th, inclusive. The weather was rainy and cold the first and second day and attendance was not so large as a year ago.

PAGE.

A. W. GOLDBERG, SHENANDOAH, OCTOBER 11, 1911.

General Condition of Crops and Season—Dry season; about one-half crop.

Corn—About one-third of an average crop.

Oats—Estimated at one-half crop.

Wheat—Full crop.

Rye—Good.

Barley—None.

Flax—None.

Buckwheat—None.

Millet—None.

Sorghum—None.

Timothy—Light.

Clover—Light.

Prairie Hay—None.

Other Grains and Grasses—Alfalfa fair.

Potatoes—Poor crop.

Vegetables—Light.

Apples—Good.

Other Fruits—Too dry; only fair.

Cattle—Less than average on account of dry pastures.

Horses—Average.

Swine—Average.

Sheep—Quite a number in the southern part of Page county.

Poultry—Usual number; high prices.

Bees—Short.

Drainage—Good.

Other Industries—None to speak of.

Lands—High prices prevail.

Report of Fair—Held at Shenandoah, August 14th to 18th, inclusive. A very successful fair considering the dry weather. We had good exhibits in all departments and almost as large attendance as last year. Financially a little to the good.

PAGE.

J. C. BECKNER, CLARINDA, OCTOBER 26, 1911.

General Condition of Crops and Season—The early part of the season was very favorable and the ground was in excellent condition. It was hot and dry in Page county during June, July and August, with a few local showers. However, the crop is a surprise to all, both as to quality and quantity.

Corn—About two-thirds of an average crop.

Oats—Extra fine quality; unusually large yield and the straw is about as good as hay.

Wheat—Excellent quality and average yield.

Rye—Very little raised but what we had was good quality and a normal yield.

Barley—Not much grown here.

Flax—None raised in this county.

Buckwheat—Very little grown except for bees.

Millet—Not much grown.

Sorghum—A splendid crop this year.

Timothy—Very light; about one-third of a crop. The new meadows were some better.

Clover—Quality was the finest I have ever seen and the weather was ideal for harvesting.

Prairie Hay—Not much grown; quality fine; light yield.

Other Grains and Grasses—Very little grass of any kind this fall on account of the hot, dry summer.

Potatoes—Almost a failure, except the very early ones. Sweet potatoes were very good.

Vegetables—Very poor.

Apples—An average crop in most of the orchards; quality only fair.

Other Fruits—Fair crop of strawberries.

Cattle—Looking extra good, considering the short pasturage. About the usual number,

Horses—Considerable interest in the pure-bred draft type in the county. The prospect for good horses is very bright for this district.

Swine—A large number raised and some very fine ones.

Sheep—Considerable interest taken in this industry. Some very fine sheep in the county.

Poultry—Thousands of chickens of all varieties.

Bees—Not much interest taken in bees, although we have a very fine apiary in Clarinda that ships bees to all parts of the world.

Drainage—Progressing.

Other Industries—Several small industries.

Lands—Steady; not much changing hands.

POCAHONTAS.

J. P. MULLEN, FONDA, SEPTEMBER 27, 1911.

General Condition of Crops and Season—Far below the average; season very dry.

Corn—About two-thirds of a crop.

Oats—Very little better than one-half a crop.

Wheat—Scarcely any grown in this county; only a fair crop.

Rye—Poor.

Barley—Fair; small acreage.

Flax—Very little, late in maturing.

Buckwheat—About the average crop.

Millet—Good.

Sorghum—Fair.

Timothy—Light.

Clover—Poor.

Prairie Hay—Very light.

Other Grains and Grasses—Poor on account of drouth.

Potatoes—Very light crop; scored one-third of a crop.

Vegetables—Fair.

Apples—Good.

Other Fruits—Good.

Cattle—Average.

Horses—Average.

Swine—Better than average.

Sheep—Average.

Poultry—Good.

Bees—Good.

Drainage—Doing a great deal.

Other Industries—The butter and egg business shows a decrease; brick and tile better than average and cement business doing well.

Lands—Steady increase in price, ranging from $80.00 to $155.00 per acre.

Report of Fair—Held at Fonda, August 1st to 4th, inclusive. A very good fair. Attendance, attractions, exhibits and other entertainments better, or equally as good as other years.

POTTAWATTAMIE.

H. M. EAGER, AVOCA, OCTOBER 18, 1911.

General Condition of Crops and Season—Taken as a whole the season of 1911 has been very unfavorable for the growing crops. During May and part of June things were excellent but hot, dry winds came and then the continued drouth, which did considerable damage. I believe the most unsuccessful season since 1894.

Corn—About one-half crop, or about 25 to 30 bushels per acre.

Oats—Below the average.

Wheat—Better than average.

Rye—Not enough raised to be of any consequence.

Barley—Fair.

Flax—None raised.

Buckwheat—Very little raised.

Millet—None.

Sorghum—None.

Timothy—Only fair; too dry.

Clover—Only fair; too dry.

Prairie Hay—None.

Other Grains and Grasses—Some little alfalfa but it is not a great success here as yet.

Potatoes—About one-half crop.

Vegetables—Very Poor; too dry.

Apples—Very fine quality but think a little short in quantity.

Other Fruits—Cherries particularly good; other small fruits quite good.

Cattle—Very poor season. Many farmers have fed hay and grain since July 15th. This would hardly be called a dairy county.

Horses—Poor season. Very good grade of horses in the county and many are sold for other markets. It is my impression that the prices are not so high as last year.

Swine—There are a great many hogs raised in this county and the breeding is good.

Sheep—Not many raised but they are of extra good stock.

Poultry—There is nothing on the farm that pays so well with as little outlay and there is nothing that yields so well to care and attention as the chicken. All farmers have large flocks and many are kept in town.

Bees—Not enough kept to supply the local demand.

Drainage—The county is straightening the river and it is the impression that it will prevent much of the former overflow.

Other Industries—Purely an agricultural county. There are several flour mills.

Lands—We have very fine soil and ideal conditions for farming. On account of the dry season the land is not selling higher, if quite so high, as formerly.

Report of Fair—Held at Avoca, September 5th to 8th, 1911. Very unfavorable weather and other attractions, such as the Carnival at Council Bluffs, kept the attendance down.

POWESHIEK.

C. P. BUSWELL, GRINNELL, OCTOBER 29, 1911.

General Condition of Crops and Season—Fair crops and a very dry season.

Corn—Will average from 40 to 50 bushels per acre.

Oats—About 35 bushels per acre.

Wheat—Not much wheat raised. Yielded from 10 to 12 bushels per acre.

Rye—No rye this year.

Barley—About 30 bushels per acre.

Flax—No flax.

Buckwheat—None raised.

Millet—Light crop.

Timothy—Very light; not over one-half ton per acre.

Clover—Very little clover hay but that was good. Clover mostly winter killed.

Prairie Hay—Very few acres but good; helped out by the fall rains.

Potatoes—Early potatoes not good on account of the dry weather. Late potatoes very good.

Vegetables—Good crop.

Apples—Large crop of apples; selling at 50c per bushel.

Other Fruits—Good crop of cherries and grapes; other small fruits scarce.

Cattle—Not many cattle on account of pastures being short and the prices high.

Horses—High prices prevail. Most farmers have just enough horses to do their work.

Swine—Lots of young pigs; not much sickness.

Sheep—Not many sheep.

Poultry—A great many chickens; selling for 10c per pound.

Bees—Very few.

Drainage—A good many tile have been laid the past season.

Other Industries—Automobiles, buggies, washing machines, cement blocks, tile and brick.

Lands—Worth from $100.00 to $250.00 per acre; not much real estate changing hands; very quiet.

Report of Fair—Held at Grinnell, September 4th to 7th, 1911. Cloudy, unsettled weather and a small crowd on the 5th; had a good crowd on the 6th but it rained at two p.m. and the fair was declared off. We had a fine display, larger than ever, and a fair field of horses.

POWESHIEK.

JAMES NOWAK, MALCOM, OCTOBER 30, 1911.

General Condition of Crops and Season—Very favorable season up until June 1st, but at that time dry weather set in and continued until the middle of August. The corn and other grains withstood the drouth well, except in a few localities. All grains were damaged to some extent by grasshoppers.

Corn—Good quality; will average about 38 bushels per acre; price now 50 cents per bushel. Corn was damaged by grasshoppers.

Oats—Medium quality and not very heavy yield, will average about 27 bushels per acre. Price at this time 43 cents.

Wheat—Not much raised; fair quality and yield.

Rye—Not much raised; fair yield and quality.

Barley—Not much grown; good yield and fair quality.

Flax—None grown.

Buckwheat—None raised.

Millet—None raised.

Sorghum—Very little grown; fair quality.

Timothy—Light crop; high priced.

..*Clover*—Light crop; high price.

Prairie Hay—Light crop; high price.

Other Grains and Grasses—Since September first all grasses and pastures have had a good growth.

Potatoes—Early potatoes a very light yield, sold for $3.00 per bushel. Late potatoes a good yield and selling for 60c per bushel.

Vegetables—Early vegetables were affected by the drouth and did not turn out as well as usual.

Apples—Largest crop in many years, selling for 50 to 75 cents per bushel.

Other Fruits—With the exception of peaches and grapes, small fruits were a good yield.

Cattle—Fair price; supply above the average.

Horses—High prices; horses scarce.

Swine—Fair price; supply about average.

Sheep—Not many raised here.

Poultry—Prices good and the demand steady.

Bees—Honey crop about average.

Drainage—Much tiling being done.

Lands—Have not advanced in value as much as the year previous.

Report of Fair—Held at Malcom on August 21-23rd. The weather was dry and it was very dusty, which did not help to increase our attendance. Our exhibits were fair in all departments and our premiums were paid in full.

PLYMOUTH.

G. A. C. CLARKE, LEMARS, DECEMBER 4, 1911.

General Condition of Crops and Season—Total rainfall from January 1, 1911, to November 30, 1911, 22.53 inches.

Corn—Average yield 35 to 40 bushels per acre.

Oats—Average yield 15 to 20 bushels per acre.

Wheat—Average yield 18 to 20 bushels per acre.

Rye—Very small acreage.

Barley—Very small acreage.

Flax—None.

Buckwheat—None.

Millet—Light crop.

Sorghum—None.

Timothy—Practically a failure.

Prairie Hay—One-half crop.

Potatoes—Average yield 80 to 85 bushels per acre.

Vegetables—Fair crop.

Apples—Large crop.

Other Fruits—Currants poor; cherries fair; plums fair.

Cattle—Total number 28,941; total value $518,422.00.

Horses—Number 14,150; value $689,662.00.

Swine—Number 98,434; value $393,780.00.

Sheep—Number 4,800; value $27,000.00.

Lands—10% increase in value.

Report of Fair—No fair held in this county. Farmers' Short Course held February 6-11, 1911, at LeMars.

RINGGOLD.

L. F. HALL, TINGLEY, SEPTEMBER 13, 1911.

General Condition of Crops and Season—Season very dry.

Corn—Three-fourths yield; will be good quality.

Oats—25 bushels per acre; excellent quality.

Wheat—Good; 20 bushels per acre.

Rye—Good quality and yield.

Barley—None.

Flax—None.

Buckwheat—Good.

Timothy—Good; extra good seed crop.

Clover—Hay good; extra good seed.

Prairie Hay—None to speak of.

Potatoes—Small yield.

Vegetables—Very good.

Apples—Good; large yield.

Other Fruits—Very good.

Cattle—Better breeding; not so many in the county.

Horses—More interest in breeding; normal amount.

Swine—Exceptionally good showing at the fair; not so many in the county as in other years.

Sheep—Good showing; this industry is on the increase.

Poultry—Better than other years.

Bees—Have done well.

Drainage—Not much done this year.

Lands—Increase in price.

Report of Fair—Held at Tingley on September 6-9, 1911. The exhibits were larger and better in all departments than in former years but the rainy weather of each day cut our receipts very materially.

SAC.

GUS W. STROHMEIER, SAC CITY, OCTOBER, 1911.

Geneal Condition of Crops and Season—With the exception of potatoes all crops were fair. The season was very favorable in the beginning but about the first of June dry weather set in and continued until the middle of September.

Corn—Average crop and in fair condition. Out of the way of frosts.

Oats—Average crop and good weight, although hurt by the dry weather the fore part of the season.

Wheat—Fair; not much raised.

Rye—Some raised; good quality.

Barley—Good; well headed; quite an acreage.

Flax—Small acreage but good quality and yield.

Buckwheat—Small acreage; average crop.

Millet—Good; quite a good deal raised.

Sorghum—Good. We have two sorghum mills in operation.

Timothy—Light but good quality.

Clover—Good and well seeded.

Prairie Hay—Fair but not much left here.

Other Grains and Grasses—Doing fair; some alfalfa doing well.

Potatoes—Short crop; good quality.

Vegetables—Good considering the dry season; fine quality.

Apples—Not much sale but they are fine and we have lots of them.

Other Fruits—Fair and good quality.

Cattle—Doing fine; some being fed; prices good; not the average number.

Horses—Scarce and good prices prevail.

Swine—In the best of condition; but not the usual number of young pigs.

Sheep—Fine quality but not many in the county.

Poultry—In the best of condition and a great many raised. Produce company paying good prices for same.

Bees—Season very unfavorable.

Drainage—Lands pretty well tiled.

Other Industries—Tile works, stone plant, canning factory for sweet corn all doing a fine business.

Lands—All land is of the best and selling for fair prices; some changing hands from $85.00 to $200.00 per acre.

Report of Fair—Held at Sac City August 8-11. The largest and best ever held in our county. We built a large stock pavilion this year and many other improvements. The fair is in good condition financially and every one is a booster.

SHELBY.

FRED FRAZIER, HARLAN, SEPTEMBER 23, 1911.

General Condition of Crops and Season—Crops are fairly good, considering that we have had the most protracted drouth since 1894.

Corn—We will have about 2-3 of a normal crop of good sound merchantable corn.

Oats—The poorest crop ever grown here; poor yield; poor quality.

Wheat—Some winter wheat yielded as high as 38 bushels but not a great deal sown. Spring wheat not a heavy yield, probably an average crop for this locality.

Rye—But little grown; fair crop.

Barley—Good crop; about an average yield of good quality.

Flax—None grown.

Buckwheat—None grown except an occasional patch for bees.

Millet—Too dry for this crop; an occasional patch looks fairly well but little sown this season on account of the dry weather.

Sorghum—Just an occasional patch.

Timothy—Fairly good crop of hay, probably a ton to the acre. Seed is high priced and much of the hay is being threshed for seed.

Clover—Poor crop; badly winter killed. Crop thin and light.

Prairie Hay—Only a few sloughs of wild hay left; fairly good yield.

Other Grains and Grasses—Alfalfa is good but we have only a small acreage. The blue grass has not done well this season.

Potatoes—Poor crop; selling for 40c per peck.

Vegetables—Poor crop of all kinds of vegetables.

Apples—Probably the best yield and quality that has ever been known in this county. Mostly summer and fall varieties.

Other Fruits—Abundant and good quality.

Cattle—Probably fewer cattle in the county than for years at this season. Dry pastures and good prices have caused cattle to be sold off rather close.

Horses—A greater interest being taken in the raising of good horses. There are many good colts this season.

Swine—The county is full of fine young pigs; no cholera but much sickness has been reported and many of the finest herds have recently died.

Sheep—Not many kept but the interest is increasing.

Poultry—One of our leading industries.

Bees—Only a few small bee farms; not a very good year for them; too dry.

Drainage—Considerable tiling was done last spring and the west fork of the Nishna Botna river is being widened and straightened under the Iowa drainage law.

Other Industries—Doing well.

Lands—Values are about on a par with one year ago. Prices range from $100 to $250 per acre with the average price at about $135.

Report of Fair—Held at Harlan August 21 to August 24 inclusive. We had the largest paid attendance ever had at our fair. Our exhibits were not up to standard so far as quality was concerned but on the whole we had a very successful fair.

SIOUX.

J. G. VAN DEN BERG, ORANGE CITY, NOVEMBER 30, 1911.

General Condition of Crops and Season—Spring was favorable but the summer months were very dry; in some places the wells gave out. The crop average is below normal.

Corn—Fair in some localities; owing to dry season the average is light.

Oats—Light crop; early oats poor; late oats will average from 18 to 30 bushels per acre.

Wheat—Very fair; averaging from 10 to 22 bushels per acre; good quality.

Rye—None raised here.

Barley—Poor, average 10 to 20 bushels per acre.

Flax—None raised here.

Buckwheat—None raised here.

Millet—Average crop.

Sorghum—Average crop; very little raised.

Timothy—Very light.

Clover—Medium crop.

Prairie Hay—Very light.

Other Grains and Grasses—Below the average.

Potatoes—Early potatoes very poor, late very ones good yield and good quality.

Vegetables—Very good.

Apples—Good quality and good crop.

Other Fruits—Very light.

Cattle—In good condition.

Horses—In good condition.

Swine—No disease; average number of pigs.

Sheep—In good condition.

Poultry—Very good; no disease.

Bees—Not many in this county; average amount of honey.

Drainage—Most of the land has been tiled.

Other Industries—Dairy, farming and gardening have been profitable.

Lands—Well improved in this county and there has been some changing hands. Prices range from $150 to $190 per acre. Some smaller tracts have sold for as high as $200 per acre.

TAMA.

A. G. SMITH, TOLEDO, OCTOBER 12, 1911.

General Condition of Crops and Season—As a rule very good the forepart of the season but during the summer until September 1st we had hot dry weather.

Corn—A very good crop; matured early and is out of the way of frost.

Oats—Not as good as usual; some report a good yield while others report a very poor average.

Wheat—Not much grown in this county, especially spring wheat. As a rule the crop is fair.

Rye—Very good crop, considering the dry summer.

Barley—Very fair.

Flax—Hardly any grown in this county.

Buckwheat—Not much grown.

Millet—Not much grown but what we had was fair.

Sorghum—Very good yield.

Timothy—The hot, dry weather did not leave much good hay, but what there was was good, selling from $15 to $17 per ton.

Clover—Very little.

Prairie Hay—Hardly any left in the county.

Other Grains and Grasses—A poor year for all grains and grasses.

Potatoes—Very small yield and poor quality.

Vegetables—The vegetables did not do well on account of drouth.

Apples—One of the best crops in years.

Other Fruits—All of the very best.

Cattle—Only a few heavy feeders around here. I am, therefore, unable to give much accurate information.

Horses—A great many horses in the county and many being sold to eastern markets; prices are good.

Swine—Thousands of hogs raised in this part of the country. I have heard of no disease and prices are good. We have all breeds.

Sheep—Very few are owned in the county but I am told the farmers are buying them.

Poultry—Every farm yard is filled with chickens.

Bees—Not many in the county.

Drainage—Very little land in Tama county that has not been drained out.

Other Industries—Progressing.

Lands—Price on the increase, selling at $100 to $200 per acre.

Report of Fair—Held at Toledo September 26-29 inclusive. Several improvements made this year. Our exhibits were good in both the live stock and agricultural departments; also the ladies department. It rained part of the time so that our attendance was cut down somewhat.

VAN BUREN.

D. A. MILLER, MILTON, SEPTEMBER 30, 1911.

General Condition of Crops and Season—Season extremely dry until September 1st; crops fairly good.

Corn—Two-thirds of a crop.

Oats—One-half a crop.

Wheat—Two-thirds of a crop.

Rye—None to speak of.

Barley—None.

Flax—None.

Buckwheat—One-half crop.

Millet—One-half crop.

Sorghum—Good.

Timothy—One-fourth crop; quality good.

Clover—One-fourth crop.

Prairie Hay—Excellent.

Other Grains and Grasses—Only fair.

Potatoes—A failure.

Vegetables—Fair.

Apples—Full crop; quality fair.

Other Fruits—Full crop.

Cattle—Plenty and good stock.

Horses—Same as cattle.

Swine—Quite a number raised.

Sheep—Full crop wool; good price.

Poultry—The average number; prices good.

Bees—Good.

Drainage—Excellent.

Other Industries—All have done well.

Lands—Prices range from $50 to $150 per acre.

Report of Fair—Held at Milton August 30-September 1, 1911. Good weather; excellent exhibits, good fair in every way, although it was dry and dusty.

WAPELLO.

H. R. BAKER, ELDON, SEPTEMBER 20, 1911.

General Condition of Crop and Season—Very good crops considering the extreme drouthy season.

Corn—Very good crop; some damaged in the shock by fall rains.

Oats—Good crop; good quality.

Wheat—Considerable wheat raised in this locality; good yield and quality.

Rye—Not much sown.

Barley—None.

Flax—None.

Buckwheat—None.

Millet—Fair crop; not much sown.

Sorghum—More raised than for several years; good yield; fair quality.

Timothy—Very light crop; hay selling at $18.00 to $20.00 per ton.

Clover—Fair average crop.

Prairie Hay—Very little.

Other Grains and Grasses—Some alfalfa being sown with good results.

Potatoes—Light crop; poor quality.

Vegetables—Very light crop.

Apples—Largest crop ever known; fair quality.

Other Fruits—No peaches; some cherries; all other fruits a light crop.

Cattle—Scarce, owing to the dry pastures during the summer. Improvement in breeding.

Horses—Plenty of them and of good stock. Quite a number imported in during the last few years.

Swine—Good lot of spring pigs; generally healthy.

Sheep—Not many sheep in this locality.

Poultry—The county is full of chickens and they have been a good paying proposition.

Bees—None to speak of.

Drainage—Some drainage being done with good results.

Other Industries—None.

Lands—Prices are about the same as a year ago.

Report of Fair—Held at Eldon, September 5-8 inclusive. Very good exhibits in all departments; attendance light on account of threatening and rainy weather.

WARREN.

JOE M'COY, INDIANOLA, OCTOBER 3, 1911.

General Condition of Crops and Season—Very dry season.

Corn—40%.

Oats—40%.

Wheat—Fall wheat 110%; spring wheat 30%.

Rye—100%.

Barley—40%.

Sorghum—90%.

Timothy—25%.

Clover—30%. Very little clover in the county.

Potatoes—Late ones 50%; early ones 10%.

Vegetables—50%.

Apples—100%.

Other Fruits—Cherries and peaches 100%; small fruits 50%.

Cattle—50%.

Horses—100%.

Swine—75%.

Sheep—100%.

Poultry—100%.

Drainage—20%.

Other Industries—Doing well.

Lands—Little changing hands; prices steady with upward tendency.

Report of Fair—Held at Indianola September 5-8 inclusive.

WASHINGTON.

H. W. BENN, WASHINGTON, NOVEMBER 13, 1911.

Corn—Average yield 45 bushels per acre; quality good.

Oats—Average yield 35 bushels per acre; quality good.

Wheat—Fall wheat 18 bushels per acre; good quality. Spring wheat 17 bushels per acre; poor quality.

Timothy—Average one ton per acre; quality good.

Clover—Average ton and a half per acre. Good quality.

Potatoes—Small yield and medium quality.

Apples—Heavy yield; quality good.

Other Fruits—Heavy yield; quality good.

Cattle—Average number and in good condition.

Horses—Average number and in good condition.

Swine—A fourth more hogs than in 1910. Some cholera.

Sheep—A fourth more sheep than in 1910.

Lands—Selling from $150 to $600.00 per acre.

WEBSTER.

J. L. HANRAHAN, FT. DODGE, NOVEMBER 16, 1911.

General Condition of Crops and Season—Fair.

Corn—About 35 bushels per acre.

Oats—About 30 bushels per acre.

Wheat—Good crop; acreage small.

Report of Fair—No fair.

WINNEBAGO.

M. M. THOMPSON, FOREST CITY, OCTOBER 24, 1911.

General Condition of Crops and Season—Never better for crops up until July 1st but at this date hot winds struck us and crops were badly damaged. From July 1st to September 11th there was practically no rainfall.

Corn—Damaged by hot winds and drouth about 50%. A large acreage was planted.

Oats—Damaged by drouth; about 18 to 25 bushels per acre.

Wheat—Small acreage; good quality but small yield, about 18 to 20 bushels per acre.

Rye—Very little raised.

Barley—Small acreage; yield light, about 20 to 25 bushels per acre.

Flax—Small acreage, about 8 to 10 bushels per acre.

Buckwheat—Small acreage; fair crop.

Millet—Small acreage; fairly good crop.

Sorghum—Quite a little planted; good yield.

Timothy—A large acreage planted; crop light on account of drouth; good yield.

Clover—About the same as timothy.

Prairie Hay—Small acreage in this county; crop is good and prices high.

Potatoes—Large acreage planted; late potatoes a fine crop, from 200 to 250 bushels per acre.

Vegetables—All kinds a good crop.

Apples—A large crop of fine apples.

Other Fruits—None of consequence.

Cattle—Many kinds raised; some very fine pure breds. Farmers are taking quite an interest in raising fine stock.

Horses—Good breeding and some fine horses are on the market.

Swine—Duroc Jerseys, Poland China and other breeds raised extensively.

Sheep—Many good sheep are now raised.

Poultry—This industry is increasing and many fine flocks are raised.

Bees—Not many raised.

Drainage—A large number of drainage districts and a great many miles of tile put in the last year.

Other Industries—Doing very well.

Lands—Prices range from $85 to $110 per acre.

Report of Fair—Held at Forest City September 27-30. The finest exhibits we ever had; good attendance, and the fair in every way was a marked success.

WINNESHIEK.

E. BLAKEMAN, DECORAH, OCTOBER 6, 1911.

General Condition of Crops and Season—Very dry until the first of September, since that date we have had plenty of rain and there will be quite a loss from grain spoiling in the stack.

Corn—Good but a light yield.

Oats—Not as good as last year.

Wheat—Same as oats.

Rye—Good.

Barley—Light, badly shrunken.

Flax—Poor and light.

Buckwheat—None.

Millet—That sown late was good.

Sorghum—None.

Timothy—Light yield, some of it dried up before being cut.

Clover—No clover to speak of; all winter killed.

Prairie Hay—None.

Potatoes—Very light yield.

Vegetables—Early ones poor; late ones good.

Apples—Fine but not much sale for them.

Other Fruits—Plums were good; other small fruit just a fair crop.

Cattle—In good condition.

Horses—Good demand; high prices.

Swine—Healthy; doing well.

Sheep—Doing well.

Poultry—Hens selling at 8c per pound; chicks at 9c.

Bees—Too dry this season for bees.

Lands—Selling from $45 to $100 per acre.

Report of Fair—Our fair was held at Decorah, August 29-September 1, inclusive. We were so unfortunate as to have to compete with two circuses and this caused a decrease of attendance. We had to borrow money to pay our premiums in full.

WOODBURY.

JOE MORTON, SIOUX CITY, OCTOBER, 1911.

General Condition of Crops and Season—Crops are much better this year than the average for northwestern Iowa, owing to the fact that we had local rains the early part of the season.

Corn—Less than normal, being estimated at 6,500,000 bushels; first class quality.

Oats—About 50% of the normal crop; a bad season for this crop on account of lack of moisture.

Wheat—Unusually good crop of wheat; excellent grade.

Rye—But very little rye raised but that was of excellent quality and a fair stand.

Barley—The barley crop was about 60%; good quality.

Flax—About a 75% crop.

Buckwheat—Practically none raised.

Millet—Very little millet raised.

Sorghum—Very good quality and a good crop.

Timothy—Know of none other than that used for hay.

Clover—Unusually fine crop; good quality.

Prairie Hay—About 75% of a crop; good quality.

Other Grains and Grasses—Tame hay and alfalfa a good crop. In many localities they got four cuttings.

Potatoes—Early ones did not do well but the late ones made an average crop.

Vegetables—Fair.

Apples—Excellent crop of apples; good quality.

Other Fruits—Small fruits suffered for want of moisture. In parts of the county there were some very good yields.

Cattle—Not a good year for feeding cattle on account of the poor pasture. However, there has been the usual number raised and from all reports they are doing well.

Horses—High priced; no surplus.

Swine—The average number raised and they are in good condition. No disease or epidemic reported.

Sheep—A fine quality of sheep raised but not as many as in other localities.

Poultry—The poultry industry, I believe, has greatly increased during the last two years. There are many fanciers raising large flocks.

Bees—An unusually small amount of honey on account of the dry weather.

Drainage—I believe the system of draining the lowlands of Woodbury county is as good as any county in the state.

Other Industries—Other manufacturing industries we have seem to be in a flourishing condition.

Lands—Steadily increasing in value and there is a strong market for land in this county; more buyers than sellers.

Report of Fair—The Interstate Live Stock Fair was held at Sioux City, September 18-23 inclusive. In regard to exhibits and attendance it was one of the best fairs ever held by this association. The weather was good and the patrons seemed perfectly satisfied.

WOODBURY.

JAMES HOBBS, MOVILLE, SEPTEMBER 25, 1911.

General Condition of Crops and Season—Crops generally are of very good quality but the quantity is less than any year since 1894. The early spring was very favorable but hot winds and dry weather set in in early summer and this caused the low yield.

Corn—About 65 per cent of the average crop.

Oats—Yielded from 10 to 30 bushels per acre; light weight.

Wheat—Fall wheat made from 15 to 40 bushels per acre; spring wheat from 8 to 12 bushels per acre; poor quality.

Rye—Acreage very light.

Barley—40% of an average crop.

Flax—None.

Buckwheat—None.

Millet—None.

Sorghum—None.

Timothy—Not more than one-half ton per acre.

Clover—One-half crop; about one ton per acre; no second crop.

Prairie Hay—Fine quality and about two-thirds of an average crop.

Other Grains and Grasses—Alfalfa good.

Potatoes—Early ones a failure; late ones one-half crop.

Vegetables—Two-thirds of a crop; excellent quality.

Apples—Abundant crop; more than enough to supply local demand.

Other Fruits—Strawberries one-half crop; cherries and plums plentiful.

Cattle—Very scarce on account of short pasture. Not more than one-half the usual number.

Horses—Not in as good condition as usual but the usual number.

Swine—In normal condition. More young pigs than usual; old hogs mostly sold off.

Sheep—In good condition; not many of them.

Poultry—Usual number.

Bees—Not doing well on account of lack of material to work on.

Drainage—Good.

Other Industries—Very prosperous.

Lands—Changing ownership at advanced prices. About $10 or $15 higher per acre than a year ago.

Report of Fair—Held at Moville September 6-8 inclusive. Very successful. Our exhibits were especially good.

WORTH.

E. H. MILLER, NORTHWOOD, OCTOBER 6, 1911.

General Condition of Crops and Season—The spring was very nice and crops were put in in fine shape. Later the season was dry and the crops on high land were injured somewhat.

Corn—A fine crop except on high or sandy land. The crop is maturing fine without frost.

Oats—Yield is somewhat uneven. High pieces yielded from 10 to 20 bushels while other fields yielded from 35 to 40 bushels per acre.

Wheat—As a rule wheat did not yield well and it is badly shrunken.

Rye—Very little sown but that seems good.

Barley—A fair yield; very good quality; good color.

Flax—Early crop yielded fairly well but the late crop was badly injured by the drouth.

Buckwheat—Very little sown but the yield promises to be good.

Millet—A fine crop; not grown very extensively.

Sorghum—But little planted; looking fine.

Timothy—A very short crop.

Clover—Poor yield; second crop came on fine and yielded well.

Prairie Hay—Very little here.

Other Grains and Grasses—Slough hay is better than for many years, owing to the dry weather.

Potatoes—Early crop was badly injured by the drouth but the late crop is doing fine.

Vegetables—Late ones are good.

Apples—Plentiful and of very fine quality.

Other Fruits—Plums were a fine crop.

Cattle—Plentiful; not in the best of condition on account of short pastures.

Horses—Plentiful and of fair quality; very few are being sold.

Swine—Only a fair lot of pigs.

Sheep—Very few flocks; fair quality.

Poultry—This industry seems to be on the increase. Large quantities are shipped weekly.

Bees—Not doing well this year on account of the protracted drouth.

Drainage—A large amount of drainage is being done, both open ditches and tile drainage.

Other Industries—The dairy industry is one of the leading farm industries and is conducted very successfully by co-operative creameries.

Lands—Have been changing hands very rapidly in the last two years and advancing in value.

Report of Fair—Held at Northwood September 25-27 inclusive. We had fine weather and one of the most successful fairs in years.

WRIGHT.

CHAS. ROTZLER, CLARION, OCTOBER 5, 1911.

General Condition of Crops and Season—Fair season; very dry.

Corn—Good quality; about 30 bushels.

Oats—Good quality; about 25 bushels.

Wheat—Good quality; about 18 bushels.

Rye—Not any.

Barley—Very little.

Flax—Not any.

Buckwheat—None.

Timothy—Light.

Clover—Light.

Prairie Hay—Light.

Potatoes—Short.

Vegetables—Good.

Apples—Good.

Other Fruits—Good.

Cattle—Good.

Horses—Good.

Swine—Good.

Sheep—Good.

Poultry—Good.

Bees—Short.

Drainage—Good and improving fast.

Other Industries—Slow.

Lands—Good.

Report of Fair—Held at Clarion September 5-8 inclusive. Bad weather all week and our receipts were cut in half. Good exhibits in all departments.

PART XIII

Directory of Associations and Organizations Representing Agricultural Interests in Iowa

Iowa Department of Agriculture—President, C. E. Cameron, Alta; Vice-President, O. A. Olson, Forest City; Secretary, A. R. Corey, Des Moines; Treasurer, G. S. Gilbertson, Des Moines.

Iowa State Horticultural Society—President, M. J. Graham, Adel; Vice-President, F. P. Spencer, Randolph; Secretary, Wesley Greene, Davenport; Treasurer, F. O. Harrington, Williamsburg.

Iowa Park and Forestry Association—President, Eugene Secor, Forest City; Vice-President, M. J. Wragg, Des Moines; Secretary, Wesley Greene, Des Moines; Treasurer, A. T. Erwin, Ames.

Society of Iowa Florists—President, J. S. Wilson, Des Moines; Vice-President, J. D. F. Fulmer, Des Moines; Secretary, Wesley Greene, Des Moines; Treasurer, J. T. Temple, Davenport.

Western Grain Dealers' Association—President, I. L. Patton, Newton; Vice-President, E. A. Fields, Sioux City; Secretary, Geo. A. Wells, Des Moines; Treasurer, Geo. A. Wells, Des Moines.

Iowa Corn Growers' Association—President, F. H. Klopping, Neola; Vice-President, Fred McCulloch, Hartwick; Treasurer, J. W. Coverdale, Elwood.

Corn Belt Meat Producers' Association—President, A. Sykes, Des Moines; Vice-President, R. M. Gunn, Buckingham; Secretary, H. C. Wallace, Des Moines; Treasurer, Chas Goodenow, Wall Lake.

Iowa State Highway Commission—Directors, A. L. Marston, Ames; C. F. Curtiss, Ames; Highway Engineer, Thos. H. MacDonald, Ames; Assistant Highway Engineer, C. B. McCullough, Ames; Consulting Bridge Engineer, J. E. Kirkham, Ames; Field Engineer, F. R. White, Ames; Secretary, Annie Laurie Bowen, Ames.

The Farmers' Grain Dealers Association—President, B. Hathway, Kingsley; Vice-President, J. W. Hazans, Barnum; Secretary, Roy McVicker, Eagle Grove; Treasurer, D. D. Paine, Eagle Grove.

Iowa Swine Breeders' Association—President, Jas. Watson, Madrid; Vice-President, M. Davidson, Menlo; Secretary and Treasurer, M. P. Hancher, Rolfe.

Iowa State Dairy Association—President, R. B. Young, Buffalo Center; Vice President, L. L. Flickinger, Fredericksburg; Secretary J. J. Ross, Iowa Falls; Treasurer, E. T. Sadler, Waterloo.

Iowa Draft Horse Breeders Association—President, G. W. Gribsby, Madrid; Vice-President, C. B. Dannen, Melbourne; Secretary, Howard Vaughn, Marion; Treasurer, Martin Nelson, Cambridge.

COUNTY AND DISTRICT AGRICULTURAL SOCIETIES AND FAIR ASSOCIATIONS IN IOWA.

Adair—Adair County Agricultural Society, Greenfield; President, Geo. Kramer, Greenfield; Secretary, W. W. West, Greenfield.

Adams—Adams County Agricultural Society, Corning; President, S. M. Richey, Corning; Secretary, Geo. E. Bliss, Corning.

Allamakee—Allamakee County Agricultural Society, Waukon; President, J. H. O'Brien, Waukon; Secretary, Geo. Hall, Waukon.

Audubon—Audubon County Agricultural Society, Audubon; President, G. W. Hoover, Audubon; Secretary, S. C. Curtis, Audubon.

Benton—Benton County Agricultural Society, Vinton; President, W. H. Hanna, Vinton; Secretary, H. G. Kruse, Vinton.

Black Hawk—La Porte City District Fair Association, La Porte City; President, C. E. Ashley, La Porte City; Secretary, H. B. Lizer, La Porte City.

dent, M. Adams, Alta; Secretary, C. H. Wegerslev, Alta.

Bennett, Tripoli; Secretary, D. A. Long, Waverly.

Boone—Boone County Agricultural Society, Ogden; President, F. W. Wilkins, Ogden; Secretary, W. C. Treloar, Ogden.

Boone—Boone Driving Park and Fair Association, Boone; President, A. M. Burnside, Boone; Secretary, John S. Crooks, Boone.

Buchanan—Buchanan County Agricultural Society, Independence; President, W. M. Woodward, Independence; Secretary, A. G. Rigby, Independence.

Buena Vista—Buena Vista County Agricultural Society, Alta; President, M. Adams, Alta; Secretary, C. H. Wegersley, Alta.

Butler—Butler County Agricultural Society, Allison; President, John Caster, Shell Rock; Secretary, W. C. Shepard, Allison.

Calhoun—Calhoun County Fair Association, Manson; President, Thos. Griffin, Manson; Secretary, C. G. Kaskey, Manson.

Calhoun—Rockwell City Fair Association, Rockwell City; President, Andrew Stewart, Rockwell City; Secretary, A. J. Hunter, Rockwell City.

Cass—Cass County Agricultural Society, Atlantic; President, F. C. Schain, Atlantic; Secretary, Carl E. Hoffman, Atlantic.

Cass—Massena District Fair Association, Massena; President, S. D. Wyckoff, Massena; Secretary, D. P. Hogan, Massena.

Carroll—Carroll Fair and Driving Park Association, Carroll; President, H. C. Stevens, Carroll; Secretary, Chas. M. Russell, Carroll.

Cedar—Tipton Fair Association, Tipton; President, Jas. G. Cessford, Tipton; Secretary, C. F. Simmermaker, Tipton.

Cerro Gordo—Northern Iowa Agricultural Society, Mason City; President, Arthur Pickford, Mason City; Secretary, Chas. H. Barber, Mason City.

Chickasaw—Chickasaw County Agricultural Society, New Hampton; President, P. H. Brannon, New Hampton; Secretary, G. M. Bigelow, New Hampton.

Chickasaw—Big Four Fair Association, Nashua; President, W. A. Granger, Nashua; Secretary, C. L. Putney, Nashua.

Clayton—Clayton County Agricultural Society, National; President, Jos. Matt, St. Olaf; Secretary, Henry Luehsen, Garnavillo.

Clayton—Strawberry Point District Agricultural Society, Strawberry Point; President, T. F. Wheeler, Strawberry Point; Secretary, H. A. Axtell, Strawberry Point.

Clayton—Elkader Fair and Track Association, Elkader; President, Henry Koehn, Elkader; Secretary, W. W. Davidson, Elkader.

Clinton—Clinton County Agricultural Society, De Witt; President, D. Armenstrout, De Witt; Secretary, G. H. Christensen, De Witt.

Clinton—Clinton District Agricultural Fine Stock and Fair Association, Clinton; President, E. C. Matthiesen, Bryant; Secretary, J. B. Ahrens, Lyons.

Crawford—Crawford County Fair Association, Arion; President, Wm. Eggers, Arion; Secretary, O. M. Creswell, Arion.

Davis—Davis County Agricultural Society, Bloomfield; President, J. R. Sheaffer, Bloomfield; Secretary, H. C. Leach, Bloomfield.

Dickinson—Dickinson County Agricultural Association, Spirit Lake; President, L. E. Francis, Spirit Lake; Secretary, W. W. White, Spirit Lake.

Delaware—Delaware County Agricultural Society, Manchester; President, F. L. Durey, Manchester; Secretary, J. B. Higman, Manchester.

Dickinson—Milford Fair Association, Milford; President, S. A. Holcomb, Milford; Secretary, F. H. Kelsey, Milford.

Fayette—Fayette County Agricultural Society, West Union; President, J. S. Smith, West Union; Secretary, E. A. McIllree, West Union.

Fayette—Oelwein District Fair Association, Oelwein; Secretary, C. H. Knos.

Franklin—Franklin County Agricultural Society, Hampton; President, J. E. Johnson, Hampton; Secretary, C. D. Williams, Hampton.

Grundy—Grundy County Agricultural Society, Grundy Center; President, H. N. Dilly, Grundy Center; Secretary, L. M. Hawn, Grundy Center.

Guthrie—Guthrie County Agricultural Society, Guthrie Center; President, B. F. Davidson, Menlo; Secretary, R. M. Crane, Guthrie Center.

Hancock—Hancock County Agricultural Society, Britt; President, C. W. Erwin, Britt; Secretary, H. A. Early, Britt.

Hardin—Hardin County Agricultural Society, Eldora; President, J. D. Reed, Eldora; Secretary, H. S. Martin, Eldora.

Harrison—Harrison County Agricultural Society, Missouri Valley; President, J. E. Jones, Missouri Valley; Secretary, A. B. Hasbrook, Missouri Valley.

Henry—Henry County Agricultural Society, Mt. Pleasant; President, T. F. Campbell, Mt. Pleasant; Secretary, C. H. Tribby, Mt. Pleasant.

Henry—Winfield Fair Association, Winfield; President, R. P. Davidson, Winfield; Secretary, Jno. A. Baxter, Winfield.

Humboldt—Humboldt County Agricultural Society, Humboldt; President, A. M. Adams, Humboldt; Secretary, W. B. West, Humboldt.

Iowa—Iowa County Agricultural Society, Marengo; President, Frank Owen, Marengo; Secretary, H. H. Brimmer, Marengo.

Iowa—Victor District Agricultural Society, Victor; President, Chas. Raffensperger, Victor; Secretary, J. P. Bowling, Victor.

Iowa—Williamsburg Pavilion and Fair Association, Williamsburg; President, Wm. Cash, Williamsburg; Secretary, James Nicholas, Williamsburg.

Jackson—Jackson County Agricultural Society, Maquoketa; President, Wm. Dunlap, Maquoketa; Secretary, W. D. McCaffrey, Maquoketa.

Jasper—Jasper County Agricultural Society, Newton; President, C. F. Sauerman, Newton; Secretary, F. E. Meredith, Newton.

Jefferson—Jefferson County Agricultural Society, Fairfield; President, Sanford Zeigler, Fairfield; Secretary, R. W. Lamson, Fairfield.

Johnson—Johnson County Agricultural Society, Iowa City; President, Bruce Moore, Iowa City; Secretary, Geo. A. Hitchcock, Iowa City.

Jones—Jones County Agricultural Society, Monticello; President, E. G. Hicks, Monticello; Secretary, Fred W. Koop, Monticello.

Jones—Anamosa Fair Association, Anamosa; President, Chas. Hastings, Anamosa; Secretary, Dr. L. W. Russell, Anamosa.

Keokuk—What Cheer District Agricultural Society, What Cheer; President, Jas. Stephenson, What Cheer; Secretary, Geo. A. Poff, What Cheer.

Kossuth—Kossuth County Agricultural Society, Algona; President, E. A. Walcott, Algona; Secretary, T. P. Harrington, Algona.

Lee—Lee County Agricultural Society, Donnellson; President, D. McCulloch, Donnellson; Secretary, Chris. Haffner, Donnellson.

Lee—West Point District Agricultural Society, West Point; President. J. W. Stewart, West Point; Secretary, John Walljasper, West Point.

Linn—Wapsie Valley Fair Association, Central City; President, E. M. Lanning, Alburnett; Secretary, E. E. Henderson, Central City.

Linn—Marion Inter-State Fair Association, Marion; President H. J. Grandall, Marion; Secretary, C. A. Patten, Marion.

Louisa—Columbus Junction District Fair Association, Columbus Junction; President, T. J. Klotz, Columbus Junction; Secretary, N. T. Hendrix, Columbus Junction.

Lyon—Lyon County Fair and Agricultural Association, Rock Rapids; President, S. D. Riniker, Rock Rapids; Secretary, Chas. W. Bradley, Rock Rapids.

Madison—Madison County Agricultural Society, Winterset; President, Elmer Orris, Winterset; Secretary, A. L. Foster, Winterset.

Mahaska—New Sharon District Agricultural Society, New Sharon; President, R. P. Doze, New Sharon; Secretary, C. F. Momyer, New Sharon.

Marion—Lake Prairie District Agricultural Society, Pella; President, A. J. Kuyper, Pella; Secretary, Chas. Porter, Pella.

Marshall—Eden District Agricultural Society, Rhodes; President A. F. Pike, Rhodes; Secretary, H. M. Weeks, Rhodes.

Marshall—Marshall County Fair Association, Marshalltown; President, Warren Nichols, Minerva; Secretary, W. M. Clark, Marshalltown.

Mills—Mills County Agricultural Society, Malvern; President, Sherman Jones, Malvern; Secretary, I. J. Swain, Malvern.

Mitchell—Mitchell County Agricultural Society, Osage; President. Bryon Leighton, Osage; Secretary, Carl H. Spaanum, Osage.

Monona—Monona County Fair Association, Onawa; President, M. B. Pullen, Onawa; Secretary, Geo. O. Holbrook, Onawa.

Monroe—Monroe County Agricultural Society, Albia; President, Alf. Timmonds, Albia; Secretary, Loren Perrin, Albia.

Montgomery—Montgomery County Fair Association, Red Oak; President, D. D. Ashby, Red Oak; Secretary, M. H. Rathbone, Red Oak.

Muscatine—Union District Agricultural Society, West Liberty; President, J. C. Nichols, West Liberty; Secretary, W. H. Shipman, West Liberty.

Muscatine—Wilton Fair Association, Wilton Junction; President, Chas. C. Kaufman, Wilton Junction; Secretary, Dr. H. H. Johnson, Wilton Junction.

O'Brien—O'Brien County Agricultural Society, Sutherland; President, Otto Peters, Sutherland; Secretary, J. B. Murphy, Sutherland.

O'Brien—Sheldon District Fair Association, Sheldon; President, Chas. Peters, Sheldon; Secretary, Geo. Gardner, Sheldon.

Page—Clarinda Fair Association, Clarinda; President, W. G. Dunn, Clarinda; Secretary, J. C. Beckman, Clarinda.

Page—Shenandoah Fair Association, Shenandoah; President, Chas. Aldrich, Shenandoah; Secretary, A. W. Goldberg, Shenandoah.

Pocahontas—Big Four District Fair Association, Fonda; President, R. F. Beswick, Fonda; Secretary, J. P. Mullen, Fonda.

Pottawattamie—Pottawattamie County Fair Association, Avoca; President, Dominick Gross, Avoca; Secretary, H. M. Eager, Avoca.

Poweshiek——Poweshiek County Central Agricultural Society, Malcom; President, Wm. McClure, Malcom; Secretary, Jas. Nowak, Malcom.

Poweshiek—Poweshiek County Central Agricultural Society, Grinnell; President, Samuel Jacob, Grinnell; Secretary, C. P. Buswell, Grinnell.

Ringgold—Tingley Fair Association, Tingley; President, C. M. Richardson, Tingley; Secretary, L. F. Hall, Tingley.

Ringgold—Ringgold County Agricultural Society, Mt. Ayr; President, Fred Ashenherst, Tingley; Secretary, C. V. Rhoades, Mt. Ayr.

Sac—Sac County Agricultural Society, Sac City; President, L. E. Erwin, Sac City; Secretary, Gus. Strohmeier, Sac City.

Shelby—Shelby County Agricultural Society, Harlan; President, C. F. Swift, Harlan; Secretary, Fred Frazier, Harlan.

Sioux—Sioux County Agricultural Society, Orange City; President, A. Van der Meide, Orange City; Secretary, J. G. Van der Berg, Orange City.

Tama—Tama County Fair Association, Toledo; President ,C. S. Tenney, Montour; Secretary, A. G. Smith, Toledo.

Taylor—Taylor County Agricultural Society, Bedford; President, G. W. Hook, Bedford; Secretary, Clyde Dunning, Bedford.

Van Buren—Milton District Agricultural Society, Milton; President, F. P. Blanchard, Milton; Secretary, D. A. Miller, Milton.

Wapello—Eldon Big Four Fair Association, Eldon; President, D. A. Jay, Eldon; Secretary, H. A. Baker, Eldon.

Warren—Warren County Fair Association, Indianola; President, Lee Talbot, Indianola; Secretary, Joe McCoy, Indianola.

Winnebago—Forest City Park and Fair Association, Forest City; President, F. J. Brooks, Forest City; Secretary, F. L. Wacholz, Forest City.

Winnebago—Buffalo Center District Fair and Driving Park Association, Buffalo Center; President, B. D. Sterling, Buffalo Center; Secretary, J. B. Boyd, Buffalo Center.

Winneshiek—Winneshiek County Agricultural Society, Decorah; President, G. F. Baker, Decorah; Secretary, E. Blakeman, Decorah.

Worth—Worth County Agricultural Society, Northwood; President, W. G. Wagner, Northwood; Secretary, E. H. Miller, Northwood.

Wright—Wright County Agricultural Society, Clarion; President, F. P. Wilson, Clarion; Secretary, Chas. Rotzler, Clarion.

Woodbury—Inter-State Live Stock Fair Association, Sioux City; President, F. L. Eaton, Sioux City; Secretary, Joe Morton, Sioux City.

Woodbury—Moville Stock Show and Carnival Co., Moville; Secretary, Jas. Hobbs, Moville.

FARMERS' COUNTY INSTITUTES IN IOWA.

Adair—President, D. J. Cowden, Adair; Secretary, Ed Walsh, Adair.

Adams—President, J. D. Kurtz, Corning; Secretary, A. B. Lewis, Corning.

Allamakee—(Short Course) President, C. J. Helmings, Waukon; Secretary, Theo. Anderson, Waterville.

Appanoose—President, Craig Daniells, Moulton; Secretary, Jno. W. Wood, Moulton.

Appanoose—S. P. Moring, Exline; Secretary, D. C. Flanagan, Exline.

Benton—President, Fred Hamann, Keystone; Secretary, J. H. Rozema, Keystone.

Black Hawk—President, F. S. Miller, Waterloo; Secretary, E. M. Lichty, Waterloo.

Boone—President, G. W. Grigsby, Madrid; Secretary, Chas. Helemes, Madrid.

Bremer—President, C. W. Pennington, Sumner; Secretary, I. D. Hadley, Sumner.

Buchanan—President, J. H. Minzel, Hazleton; Secretary, Frank Bantz, Independence.

Buena Vista—President, L. B. Crouch, Storm Lake; Secretary, S. I. Edwards, Storm Lake.

Butler—President, Geo. Adair, Shell Rock; Secretary, E. E. Wilcox, Shell Rock.

Calhoun—President, T. W. McCrary, Rockwell City; Secretary, Henry Parson, Rockwell City.

Carroll—President, B. C. Grimes, Glidden; Secretary. J. F. Snyder, Glidden.

Cedar—President, Elmer Coulter, West Branch; Secretary, Wrigley Smith, West Branch.

Cerro Gordo—President, D. McArthur, Mason City; Secretary, J. H. Carr, Swaledale.

Cherokee—President, P. M. Peterson, Cherokee; Secretary, W. P. Dawson, Cherokee.

Cherokee—President, H. F. Hoffman, Washta; Secretary, Joe Chapman, Washta.

Chickasaw—President, M. J. Heald, Nashua; Secretary, E. E. Tracy, Nashua.

Clay—President, Peter Johnson, Dickens; Secretary. Bert Paddock, Spencer.

Clayton—President, M. G. Arnold, Strawberry Point; Secretary, H. A. Axtell, Strawberry Point.

Clinton—President, D. L. Pascal, De Witt; Secretary, J. J. Garrity, De Witt.

Dallas—(Short Course) President N. M. Leonard, Waukee; Secretary, D. E. Fish, Adel.

Davis—President, V. G. Warner, Bloomfield; Secretary, W. C. Hoon, Bloomfield.

Davis—President, F. L. Gardiner, Pulaski; Secretary, J. W. Wray, Pulaski.

Decatur—President, Fred Woolley, Garden Grove; Secretary, J. W. Long, Leon.

Delaware—President, A. E. Mead, Manchester; Secretary, Frank Sly, Manchester.

Dickinson—President, John Amundson, Milford; Secretary, J. F. Brett, Spirit Lake.

Emmet—(Short Course) President, C. F. Long, Estherville; Secretary, I. J. Robinson, Estherville.

Floyd—(Short Course) President, Geo. E. May, Charles City; Secretary, E. A. Sheldon, Charles City.

Floyd—President, J. R. Waller, Charles City; Secretary, W. W. Birkins, Charles City.

Fremont—President, Chas. E. Frazer, Sidney; Secretary, H. J. Ross, Farragut.

Greene—President, Willard Zeller, Cooper; Secretary, F. O. Rhoades, Cooper.

Greene—President, J. B. Patrick, Dana; Secretary, J. H. Hughes, Grand Junction.

Grundy—President, Lew Alberts, Reinbeck; Secretary, Robt. Plager, Grundy Center.

Guthrie—President, Grant Chapman, Bagley; Secretary, F. A. Mallett, Guthrie Center.

Hamilton—President, C. G. Felloeson, Stratford; Secretary, Herbert Waller, Stratford.

Hancock—President, Wm. Rasmussen, Britt; Secretary, Henry Shaffer, Britt.

Harrison—President, W. S. Kelly, Mondamin; Secretary, Mrs. Stephen Mahoney, Mondamin.

Henry—President, E. T. Willitts, Mt. Pleasant; Secretary, J. W. Palm, Mt. Pleasant.

Howard—President, Myron Converse, Cresco; Secretary, Julius Doolitle, Cresco.

Humboldt—President, Geo. F. Kitman, Humboldt; Secretary, Charles Spayde, Humboldt.

Jackson—President, Geo. Blake, Maquoketa; Secretary L. L. Littlefield, Bellevue.

Jefferson—President, R. W. Lamson, Fairfield; Secretary, Chas. H. Ross, Fairfield.

Johnson—President, E. T. Davis, Iowa City; Secretary, R. P. Adams, Solon.

Keokuk—President, U. S. Chacey, Nugent; Secretary, A. H. Bakehouse, Sigourney.

Lee—President, Joseph Fry, Weaver; Secretary, E. C. Lynn, Donnellson.

Linn—President, T. W. Moody, Walker; Secretary, G. A. Hayzlett, Walker.

Linn—President, F. D. Hall, Springville; Secretary, Frank Bedell, Springville.

Louisa—President, S. F. Wilson, Wapello; Secretary, C. B. Wilson, Morning Sun.

Lucas—President, John Q. Werts, Russell; Secretary, J. C. Williamson, Chariton.

Lyon—President, L. M. Foote, Inwood; Secretary, A. O. Anderson, Inwood.

Madison—President, W. D. Patterson, Winterset; Secretary, H. G. Tilton, Winterset.

Mahaska—President, J. G. Lyttle, Oskaloosa; Secretary, F. F. Everett, Lacy.

Marion—President, D. W. Ward, Knoxville; Secretary, John D. Schlotterbach, Knoxville.

Mills—President, Geo. Parker, Henderson; Secretary, Claud Wilson, Henderson.

Mitchell—President, H. H. Richards, Osage; Secretary, R. J. Fisk, Osage.

Monona—President, Perry Livingood, Castana; Secretary, J. E. McNamara, Castana.

Monroe—President, John Foster, Albia; Secretary, Leslie Perrin, Albia.

Montgomery—President, W. A. Peterson, Stanton; Secretary, C. G. Carlton, Stanton.

Muscatine—President, Newton Lang, Wilton; Secretary, A. Rexroth, Moscow.

O'Brien—President, Geo. J. Smith, Paullina; Secretary, H. G. Culp, Paullina.

Page—President, J. E. Sawhill, Clarinda; Secretary, Jessie Field, Clarinda.

Palo Alto—President, Frank Illingworth, Emmetsburg; Secretary, Geo. Smith, Osgood.

Palo Alto—President, V. L. O'Connor, Graettinger; Secretary, W. G. Harrison, Graettinger.

Plymouth—(Short Course) President, C. L. Trenery, Le Mars; Secretary, Jacob G. Koenig, Le Mars.

Pocahontas—President, W. W. Linnan, Pocahontas; Secretary, Walter P. Jensen, Pocahontas.

Polk—President, W. E. F. Randolph, Ankeny; Secretary, J. W. Hildreth, Ankeny.

Poweshiek—President, W. N. Morgan, Guernsey; Secretary, A. P. Hughes, Deep River.

Ringgold—President, E. E. Norris, Diagonal; Secretary, Grant Stahl, Diagonal.

Sac—President, G. S. Angier, Schaller; Secretary, O. O. Starr, Schaller.

Scott—President, Aug. Lamp, Eldridge; Secretary, A. P. Arp, Eldridge, R. No. 1.

Shelby—President, Frank D Nelson, Harlan; Secretary, Perry Mayne, Harlan.

Sioux—President, J. C. Emery, Seney; Secretary G. L. Venard, Hawarden.

Story—President, W. H. Handsaker, Nevada; Secretary, Roy Bennett, Ames.

Story—President, J. H. Cleverly, Maxwell; Secretary, Logan Olinger, Maxwell.

Tama—President, A. L. Ames, Traer; Secretary, R. G. Stoakes, Traer.

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